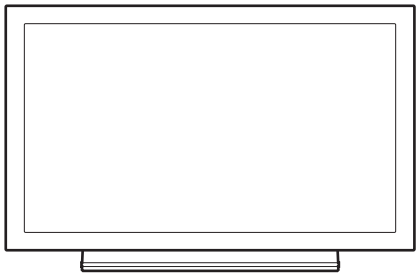
Pioneer sound.vision.soul

Service Manual



PRO-141FD

ORDER NO.
ARP3496

FLAT PANEL DISPLAY

PRO-141FD
KRP-600M

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Model	Type	Power Requirement	Remarks
PRO-141FD	KU/CBXC	AC 120 V	
KRP-600M	KUCXC	AC 120 V	
KRP-600M	YVPSLFTD	AC 110 V to 240 V	
KRP-600M	TYVXK5	AC 110 V to 240 V	

For details, refer to "Important Check Points for good servicing".

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ⓒ**PIONEER CORPORATION 2008**

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SAFETY INFORMATION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING

This product contains certain electrical parts contain chemicals which are known to the State of California to cause cancer, birth defects or other reproductive harm.

Health & Safety Code Section 25249.6 - Proposition 65

NOTICE
(FOR CANADIAN MODEL ONLY)
Fuse symbols (fast operating fuse) and/or (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE
(POUR MODÈLE CANADIEN SEULEMENT)
Les symboles de fusible (fusible de type rapide) et/ou (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

SAFETY PRECAUTIONS

NOTICE : Comply with all cautions and safety related notes located on or inside the cabinet and on the chassis.

The following precautions should be observed :

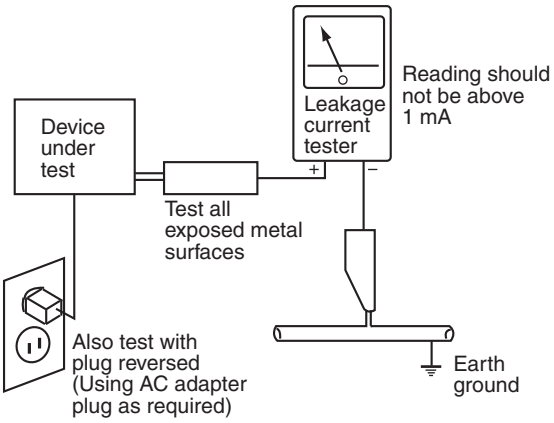
1. When service is required, even though the PDP UNIT an isolation transformer should be inserted between the power line and the set in safety before any service is performed.
2. When replacing a chassis in the set, all the protective devices must be put back in place, such as barriers, nonmetallic knobs, adjustment and compartment covershields, isolation resistor-capacitor, etc.
3. When service is required, observe the original lead dress. Extra precaution should be taken to assure correct lead dress in the high voltage circuitry area.
4. Always use the manufacture's replacement components. Especially critical components as indicated on the circuit diagram should not be replaced by other manufacture's. Furthermore where a short circuit has occurred, replace those components that indicate evidence of overheating.
5. Before returning a serviced set to the customer, the service technician must thoroughly test the unit to be certain that it is completely safe to operate without danger of electrical shock, and be sure that no protective device built into the set by the manufacture has become defective, or inadvertently defeated during servicing. Therefore, the following checks should be performed for the continued protection of the customer and servicetechnician.
6. Perform the following precautions against unwanted radiation and rise in internal temperature.
   - Always return the internal wiring to the original styling.
   - Attach parts (Gascket, Ferrite Core, Ground, Rear Cover, Shield Case etc.) surely after disassembly.
7. Perform the following precautions for the PDP panel.
   - When the front case is removed, make sure nothing hits the panel face, panel corner, and panel edge (so that the glass does not break).
   - Make sure that the panel vent does not break. (Check that the cover is attached.)
   - Handle the FPC connected to the panel carefully. Twisting or pulling the FPC when connecting it to the connector will cause it to peel off from the panel.
8. Pay attention to the following.
   - Pay extreme caution when the front case and rear panel are removed because this may cause a high risk of disturbance to TVs and radios in the surrounding.

Leakage Current Cold Check

With the AC plug removed from an AC power source, place a jumper across the two plug prongs. Turn the AC power switch on. Using an insulation tester (DC 500V), connect one lead to the jumpered AC plug and touch the other lead to each exposed metal part (input/output terminals, screwheads, metal overlays, control shafts, etc.), particularly any exposed metal part having a return path to the chassis. Exposed metal parts having a return path to the chassis should have a minimum resistor reading of 4 MΩ.
The below 4 MΩ resistor value indicate an abnormality which require corrective action. Exposed metal parts not having a return path to the chassis will indicate an open circuit.

Leakage Current Hot Check

Plug the AC line cord directly into an AC power source (do not use an isolation transformer for this check).
Turn the AC power switch on.
Using a "Leakage Current Tester (Simpson Model 229 equivalent)", measure for current from all exposed metal parts of the cabinet (input/output terminals, screwheads, metal overlays, control shaft, etc.), particularly any exposed metal part having a return path to the chassis, to a known earth ground (water pipe, conduit, etc.). Any current measured must not exceed 1 mA.



AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE SET TO THE CUSTOMER.

PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in PIONEER set have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.
Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.
The use of a substitute replacement component which dose not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire or other hazards.
Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

[Important Check Points for Good Servicing]

In this manual, procedures that must be performed during repairs are marked with the below symbol.
Please be sure to confirm and follow these procedures.

1. Product safety

Please conform to product regulations (such as safety and radiation regulations), and maintain a safe servicing environment by following the safety instructions described in this manual.

① Use specified parts for repair.

Use genuine parts. Be sure to use important parts for safety.

② Do not perform modifications without proper instructions.

Please follow the specified safety methods when modification(addition/change of parts) is required due to interferences such as radio/TV interference and foreign noise.

③ Make sure the soldering of repaired locations is properly performed.

When you solder while repairing, please be sure that there are no cold solder and other debris.
Soldering should be finished with the proper quantity. (Refer to the example)

④ Make sure the screws are tightly fastened.

Please be sure that all screws are fastened, and that there are no loose screws.

⑤ Make sure each connectors are correctly inserted.

Please be sure that all connectors are inserted, and that there are no imperfect insertion.

⑥ Make sure the wiring cables are set to their original state.

Please replace the wiring and cables to the original state after repairs.
In addition, be sure that there are no pinched wires, etc.

⑦ Make sure screws and soldering scraps do not remain inside the product.

Please check that neither solder debris nor screws remain inside the product.

⑧ There should be no semi-broken wires, scratches, melting, etc. on the coating of the power cord.

Damaged power cords may lead to fire accidents, so please be sure that there are no damages.
If you find a damaged power cord, please exchange it with a suitable one.

⑨ There should be no spark traces or similar marks on the power plug.

When spark traces or similar marks are found on the power supply plug, please check the connection and advise on secure connections and suitable usage. Please exchange the power cord if necessary.

⑩ Safe environment should be secured during servicing.

When you perform repairs, please pay attention to static electricity, furniture, household articles, etc. in order to prevent injuries.
Please pay attention to your surroundings and repair safely.

2. Adjustments

To keep the original performance of the products, optimum adjustments and confirmation of characteristics within specification.
Adjustments should be performed in accordance with the procedures/instructions described in this manual.

3. Lubricants, Glues, and Replacement parts

Use grease and adhesives that are equal to the specified substance.
Make sure the proper amount is applied.

4. Cleaning

For parts that require cleaning, such as optical pickups, tape deck heads, lenses and mirrors used in projection monitors, proper cleaning should be performed to restore their performances.

5. Shipping mode and Shipping screws

To protect products from damages or failures during transit, the shipping mode should be set or the shipping screws should be installed before shipment. Please be sure to follow this method especially if it is specified in this manual.

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1. SERVICE PRECAUTIONS
1.1 NOTES ON SOLDERING

- For environmental protection, lead-free solder is used on the printed circuit boards mounted in this unit.
  Be sure to use lead-free solder and a soldering iron that can meet specifications for use with lead-free solders for repairs accompanied by reworking of soldering.

- Compared with conventional eutectic solders, lead-free solders have higher melting points, by approximately 40 ºC.
  Therefore, for lead-free soldering, the tip temperature of a soldering iron must be set to around 373 ºC in general, although the temperature depends on the heat capacity of the PC board on which reworking is required and the weight of the tip of the soldering iron.

Do NOT use a soldering iron whose tip temperature cannot be controlled.

Compared with eutectic solders, lead-free solders have higher bond strengths but slower wetting times and higher melting temperatures (hard to melt/easy to harden).

The following lead-free solders are available as service parts:
- Parts numbers of lead-free solder:
  GYP1006 1.0 in dia.
  GYP1007 0.6 in dia.
  GYP1008 0.3 in dia.

1.2 CHARGED SECTION AND HIGH VOLTAGE GENERATING POINT

■ Charged Section

The places where the commercial AC power is used without passing through the power supply transformer.
If the places are touched, there is a risk of electric shock. In addition, the measuring equipment can be damaged if it is connected to the GND of the charged section and the GND of the non-charged section while connecting the set directly to the commercial AC power supply. Therefore, be sure to connect the set via an insulated transformer and supply the current.

1. Power Cord
2. AC Inlet
3. Power Switch
4. Fuse (In the POWER SUPPLY Unit)
5. STB Transformer and Converter Transformer (In the POWER SUPPLY Unit)
6. Other primary side of the POWER SUPPLY Unit

■ High Voltage Generating Point

The places where voltage is 100 V or more except for the charged places described above. If the places are touched, there is a risk of electric shock.
The VSUS voltage remains for several minutes after the power to the unit is turned off. These places must not be touched until about 10 minutes after the power is turned off, or it is confirmed with a tester that there is no residual VSUS voltage.

If the procedures described in "5.6 [1] PANEL DRIVE-POWER ON/OFF FUNCTION" are performed before the power is turned off, the voltage will be discharged in about 30 seconds.

60F X DRIVE Assy ..... (210 V)
60F Y DRIVE Assy ..... (–280 V to 420 V)
60F SCAN A Assy ..... (–280 V to 420 V)
60F SCAN B Assy ..... (–280 V to 420 V)
60F SCAN C Assy ..... (–280 V to 420 V)
60F SCAN D Assy ..... (–280 V to 420 V)

: Part is Charged Section.

: Part is the High Voltage Generating Points other than the Charged Section.

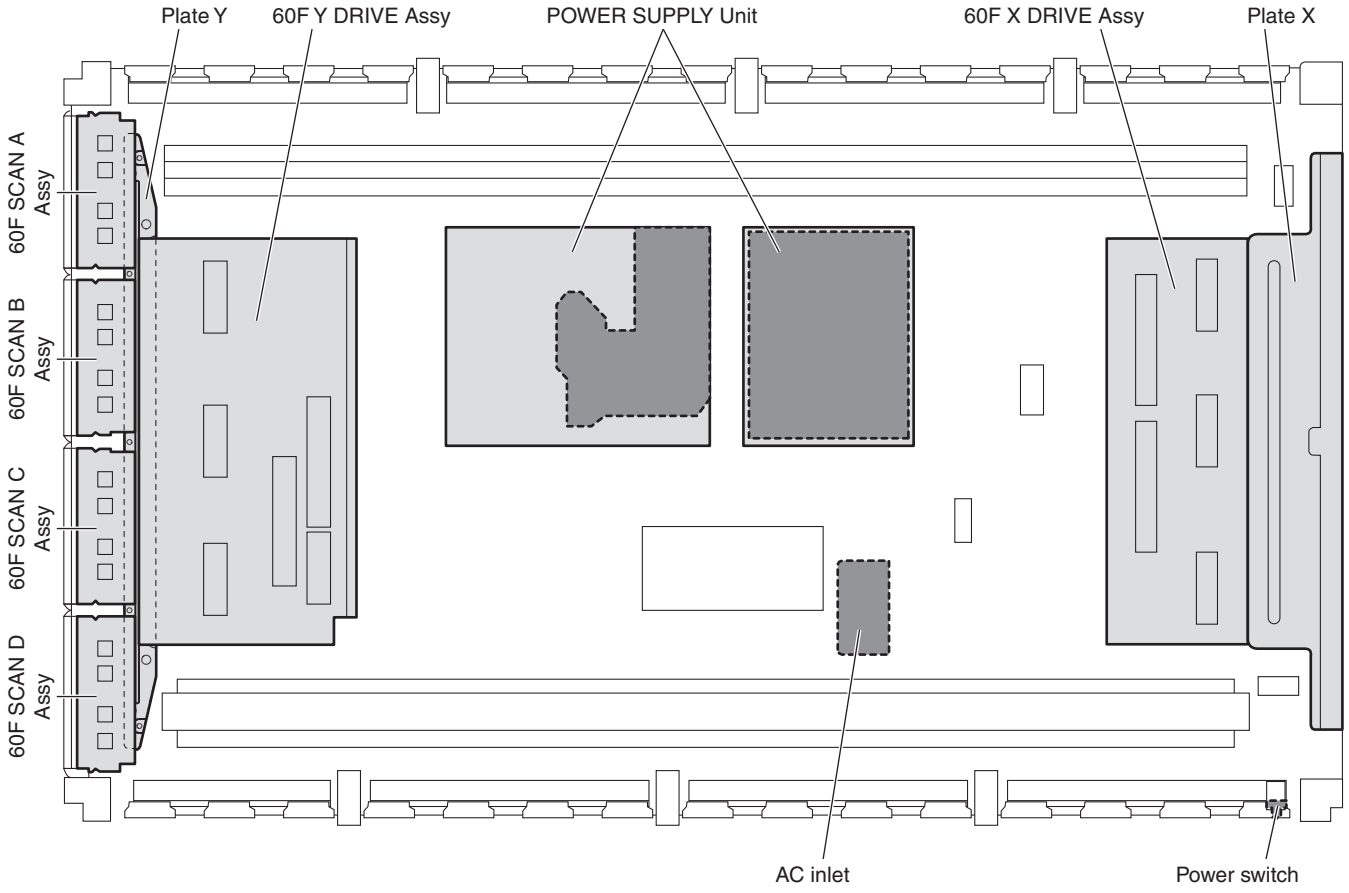
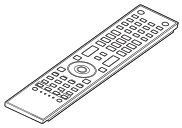


Fig. High Voltage Generating Point (Rear view)

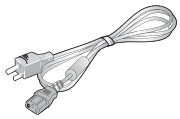
2. SPECIFICATIONS
2.1 ACCESSORIES

■ PRO-141FD/KU/CBXC

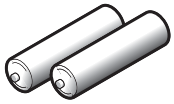
- Remote control (AXD1570)



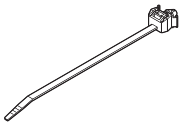
- Power cord (2 m/6.6 feet) (ADG1215)



- Alkaline dry cell battery (LR6, AA) (2)

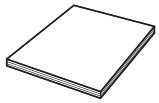


- Binder Assy (AEC2158)
  - Cable clamps (4)

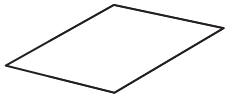


- Cleaning cloth (AED1285)

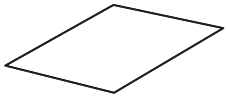
- Operating instructions (ARB1581)



- Owners case Assy
  - Certificate of Authenticity

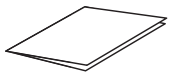


  - Certificate Glossary



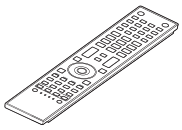
- Specifications Sheet (ARM1406)

- Warranty card

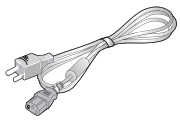


■ KRP-600M/KUCXC

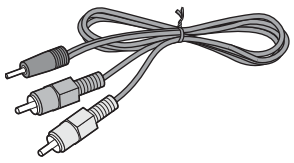
- Remote control (AXD1570)



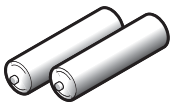
- Power cord (2 m/6.6 feet) (ADG1215)



- Stereo Sound Cable with a Mini Plug (1) (ADF1040)

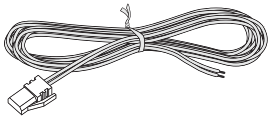


- Alkaline dry cell battery (LR6, AA) (2)

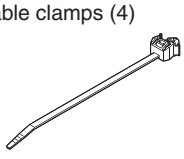


- Cleaning cloth (AED1285)

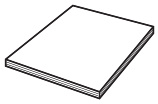
- Speaker Cable (L) (1) (ADF1038)



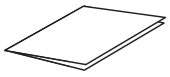
- Binder Assy (AEC2158)
  - Cable clamps (4)



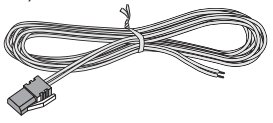
- Operating instructions (ARE1500)



- Warranty card

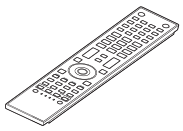


- Speaker Cable (R) (1) (ADF1039)

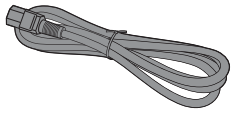


■ KRP-600M/YVPSLFTD

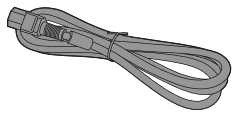
- Remote control (AXD1570)



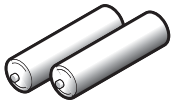
- Power cord (ADG1214 or ADG1223)



- Power cord Assy

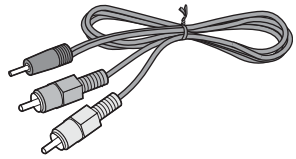


- Alkaline dry cell battery (LR6, AA) (2)

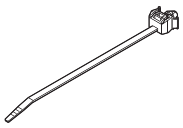


- Cleaning cloth (AED1285)

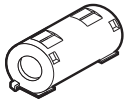
- Stereo Sound Cable with a Mini Plug (1) (ADF1040)



- Binder Assy (AEC2158)
  - Cable clamps (4)

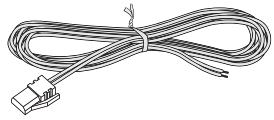


- Ferrite Core (ATX1039)
  - Ferrite Core (1)

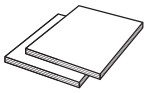


  - Cable Tie for Ferrite Core (1)

- Speaker Cable (L) (1) (ADF1038)

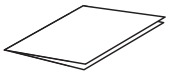


- Operating instructions (ARC1612, ARE1498)

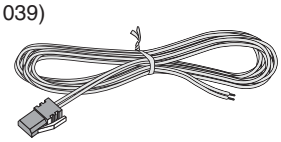


- Specifications Sheet (ARM1409)

- Warranty card

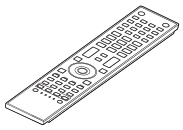


- Speaker Cable (R) (1) (ADF1039)

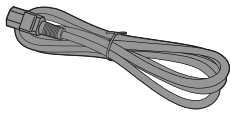


■ KRP-600M/TYVXK5

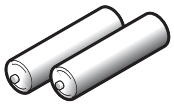
- Remote control (AXD1570)



- Power cord (ADG1214 or ADG1223)

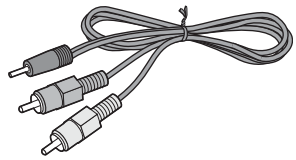


- Alkaline dry cell battery (LR6, AA) (2)

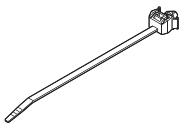


- Cleaning cloth (AED1285)

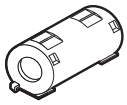
- Stereo Sound Cable with a Mini Plug (1) (ADF1040)



- Binder Assy (AEC2158)
  - Cable clamps (4)

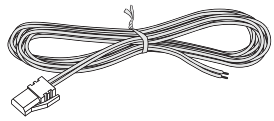


- Ferrite Core (ATX1039)
  - Ferrite Core (1)

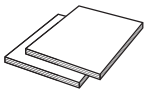


  - Cable Tie for Ferrite Core (1)

- Speaker Cable (L) (1) (ADF1038)

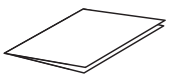


- Operating instructions (ARC1611, ARE1497)

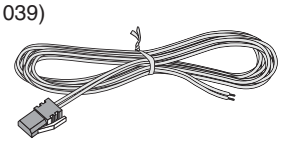


- Specifications Sheet (ARM1408)

- Warranty card



- Speaker Cable (R) (1) (ADF1039)



2.2 SPECIFICATIONS

■ PRO-141FD/KU/CBXC

Flat Panel Display	PRO-141FD (60”)
Number of pixels	1920 × 1080 pixels
On-Screen Languages	English, French, Spanish
Power Requirement	120 V AC, 60 Hz, 481 W (0.3 W Standby)
Weight	49.9 kg (110 lbs)

Terminals - Rear		
	AC IN	1
	INPUT 1	VIDEO in
	INPUT 2	COMPONENT VIDEO in
	INPUT 3	Analog RGB in
	INPUT 4	DVI-D in
	INPUT 5	HDMI in*
	INPUT 6	HDMI in*
	INPUT 7	HDMI in*
	INPUT 8	HDMI in*
	LAN	1
	RS-232C	1
	IR REPEATER OUT	1

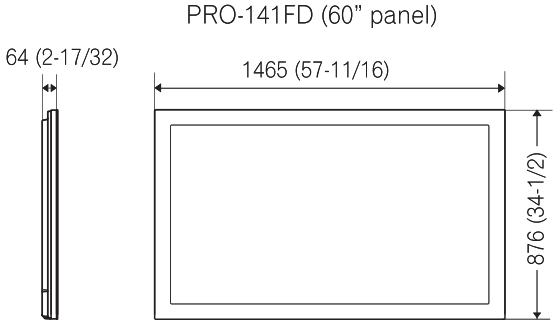
* conforms to HDMI1.3 (Deep Color) and HDCP1.1

HDMI (High-Definition Multimedia Interface) is a digital interface that handles both video and audio using a single cable.

HDCP (High-bandwidth Digital Content Protection) is a technology used to protect copyrighted digital contents that use the Digital Visual Interface (DVI).

Note: Design and specifications are subject to change without notice.

Dimensions



■ KRP-600M/KUCXC

Flat Panel Display	KRP-600M (60”)	
Number of pixels	1920 × 1080 pixels	
On-Screen Languages	English, French, German, Spanish, Italian, Japanese, Dutch, Swedish, Portuguese, Greek, Finnish, Russian, Turkish, Norwegian, Danish	
Power Requirement	120 V AC, 60 Hz, 4.1 A (0.3 W Standby)	
Weight	49.9 kg (110 lbs)	

Terminals - Rear		
	AC IN	1
	INPUT 1	VIDEO in
	INPUT 2	COMPONENT VIDEO in
	INPUT 3	Analog RGB in
	INPUT 4	DVI-D in
	INPUT 5	HDMI in*
	INPUT 6	HDMI in*
	AUDIO IN	2
	LAN	1
	RS-232C	1
	IR REPEATER OUT	1
	SPEAKER	1 L/R – 6 Ω to 16 Ω/9 W + 9 W (at 6 Ω)

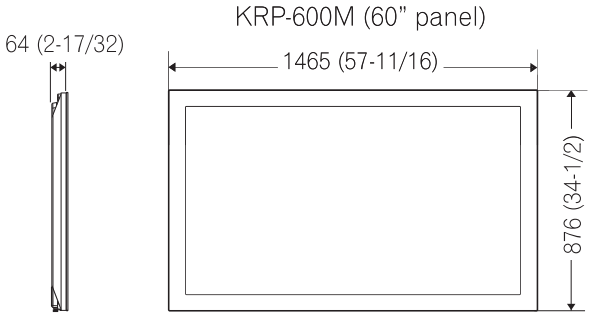
* conforms to HDMI1.3 (Deep Color) and HDCP1.1

HDMI (High-Definition Multimedia Interface) is a digital interface that handles both video and audio using a single cable.

HDCP (High-bandwidth Digital Content Protection) is a technology used to protect copyrighted digital contents that use the Digital Visual Interface (DVI).

Note: Design and specifications are subject to change without notice.

Dimensions



■ KRP-600M/YVPSLFTD, TYVXK5

Flat Panel Display	KRP-600M (60“)
Number of pixels	1920 × 1080 pixels
On-Screen Languages	English, French, German, Spanish, Italian, Japanese, Dutch, Swedish, Portuguese, Greek, Finnish, Russian, Turkish, Norwegian, Danish
Power Requirement	110 V to 240 V AC, 50 Hz/60 Hz, 486 W (0.4 W Standby)
Weight	49.9 kg (110 lbs)

Terminals - Rear		
	AC IN	1
	INPUT 1	VIDEO in
	INPUT 2	COMPONENT VIDEO in
	INPUT 3	Analog RGB in
	INPUT 4	DVI-D in
	INPUT 5	HDMI in*
	INPUT 6	HDMI in*
	AUDIO IN	2
	LAN	1
	RS-232C	1
	IR REPEATER OUT	1
	SPEAKER	1 L/R ... 6 Ω to 16 Ω/9 W + 9 W (at 6 Ω)

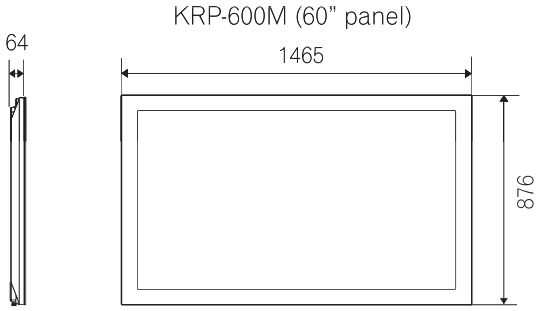
* conforms to HDMI1.3 (Deep Color) and HDCP1.1

HDMI (High-Definition Multimedia Interface) is a digital interface that handles both video and audio using a single cable.

HDCP (High-bandwidth Digital Content Protection) is a technology used to protect copyrighted digital contents that use the Digital Visual Interface (DVI).

Note: Design and specifications are subject to change without notice.

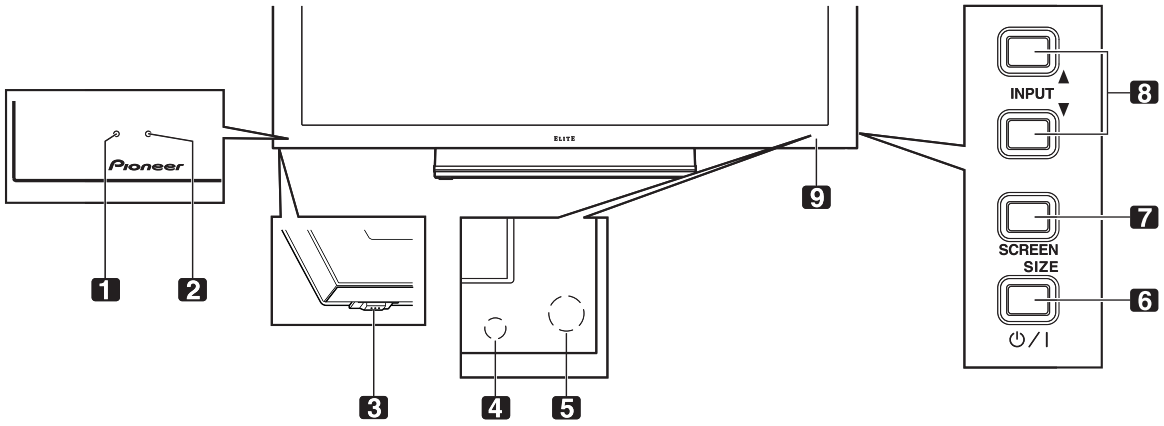
Dimensions



2.3 PANEL FACILITIES

■ For PRO-141FD

PRO-141FD/PRO-101FD: Face of Panel

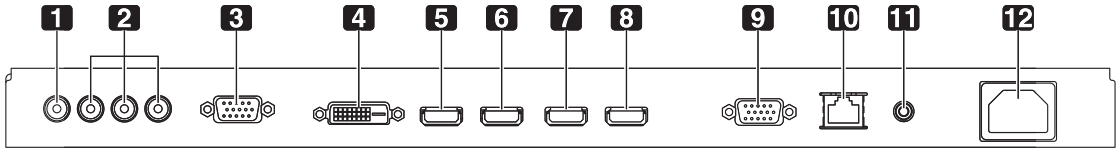


PRO-141FD
(Right side)

1 - Power On indicator
2 - STANDBY indicator
3 - Power On (⏻) button
4 - Room Light sensor
5 - Remote Control sensor
6 - STANDBY/ON button
7 - SCREEN SIZE button
8 - INPUT buttons
9 - Bezel (some call it the front frame)

Back of the Panel

(upper bank)



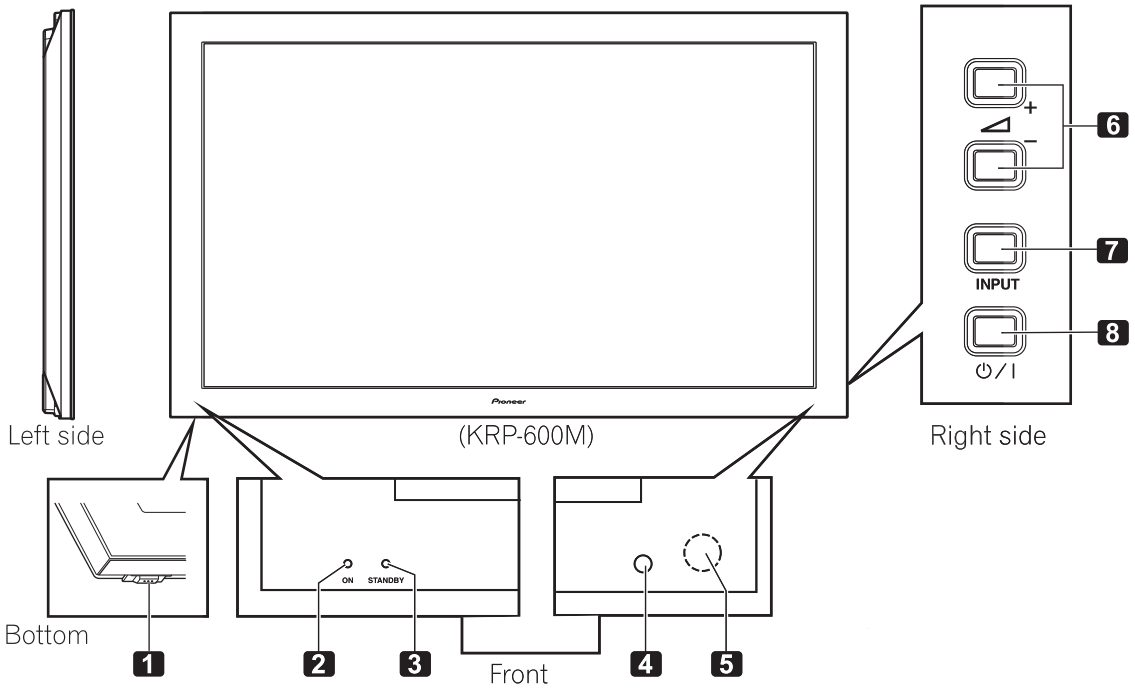
(from left to right)

1 - INPUT 1 terminal (Video)
2 - INPUT 2 terminals (Component, Y, C_B/P_B, C_R/P_R)
3 - INPUT 3 terminal (Analog RGB)
4 - INPUT 4 terminal (DVI-D)
5 - INPUT 5 terminal (HDMI)
6 - INPUT 6 terminal (HDMI)
7 - INPUT 7 terminal (HDMI)
8 - INPUT 8 terminal (HDMI)
9 - RS-232C terminal (for factory use)
10 - LAN terminal
11 - IR REPEATER OUT terminal
12 - AC In terminal

Terminals on the rear panel are common to both models.

■ Front Section for KRP-600M

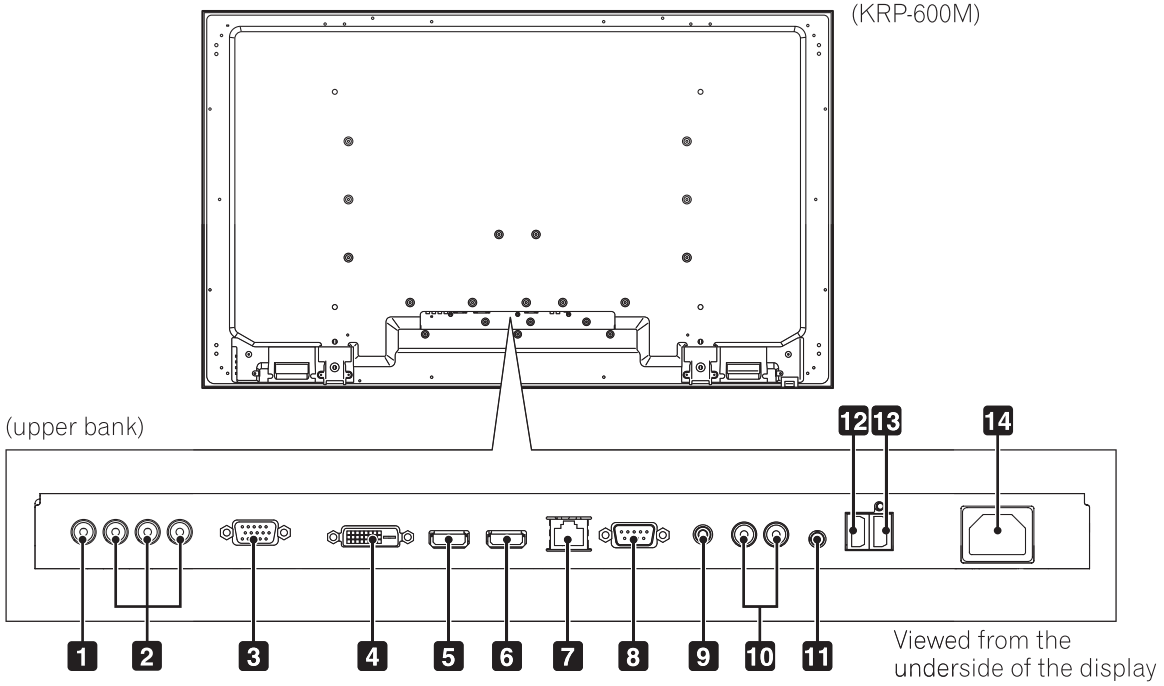
KRP-600M : Face of Panel



1 - Power On (⏻) button
2 - Power On indicator
3 - STANDBY indicator
4 - Room Light sensor
5 - Remote Control sensor
6 - Volume Up/Down buttons
7 - INPUT button
8 - STANDBY/ON button

■ Rear Section for KRP-600M

Back of the Panel



(from left to right)

1 - INPUT 1 terminal (Video)
2 - INPUT 2 terminals (Component, Y, C_B/P_B, C_R/P_R)
3 - INPUT 3 terminal (Analog RGB)
4 - INPUT 4 terminal (DVI-D)
5 - INPUT 5 terminal (HDMI)
6 - INPUT 6 terminal (HDMI)
7 - LAN terminal
8 - RS-232C terminal (for factory use)
9 - IR REPEATER OUT terminal
10 - AUDIO 1 R/L (Audio 1)
11 - AUDIO 2 (Audio 2)
12 - SPEAKER (R) terminal
13 - SPEAKER (L) terminal
14 - AC In terminal

Terminals on the rear panel are common to both models.

■ Remote Control Unit

MONITOR ⏻: 1
Turn On or place panel in Standby

INPUT: 2
Select a source (INPUT 1 thru INPUT 8)

SPLIT: 3
Cycle view thru single-screen, 2-screen, picture-in-picture

SUB INPUT: 4
Switch inputs for sub screens when viewing in multi-screen

AV SELECTION: 5
Select audio/video settings
AV Source: OPTIMUM, STANDARD, DYNAMIC, MOVIE, PURE, SPORT, GAME, USER
PC Source: STANDARD, USER

AUTO SET UP: 6
Optimize the PC screen

Number buttons 0 thru 9: 7
Enter a number when applying IP Control Setting

KURO LINK: 8
Select the KURO LINK functions

P/CH: 9
Use the button for control of connected equipment

EXIT: 10
Exit the menu to return to the normal screen

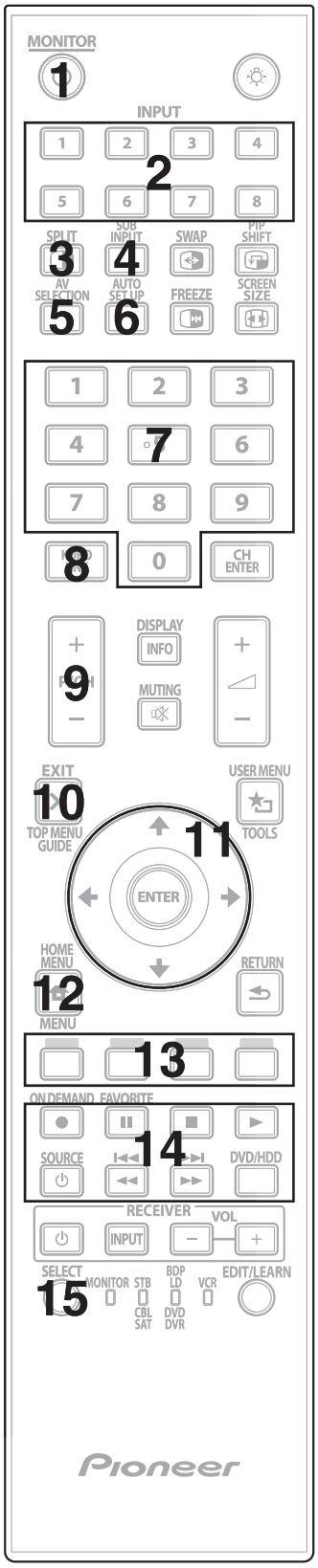
Arrow buttons: 11
Navigate the menu screens

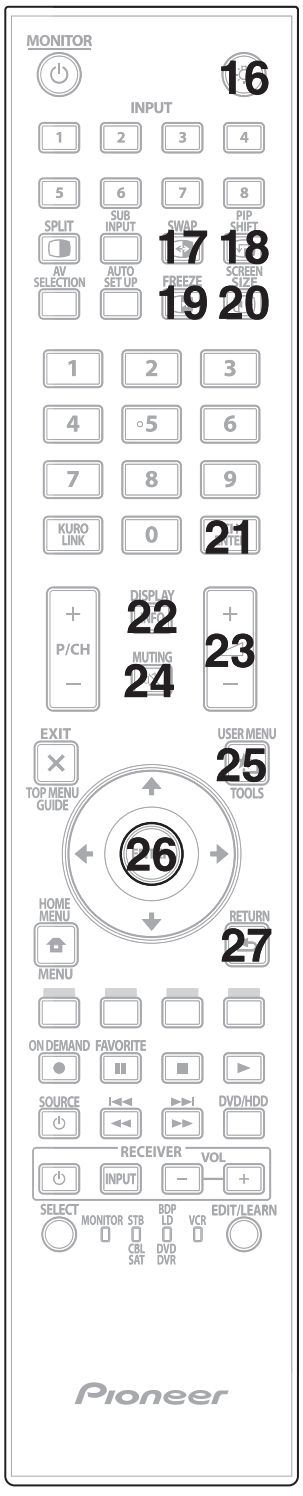
HOME MENU/MENU: 12
Display the HOME MENU

Color buttons (Red, Green, Blue, Yellow): 13
Control a BD player for KURO LINK functions only

Player/Recorder Control: 14
Use buttons for control of connected equipment

SELECT: 15
Select for MONITOR, STB, CBL/SAT, BDP/LD, DVD/DVR, VCR





16 ⏻:Lights all buttons (except arrow buttons and the **ENTER** button)
Lights turn off if no operations are performed within five seconds. Use this button for remote control use in dimly lit locations.

17 **SWAP:**
Switch between the two screens when viewing as 2-screen or picture-in-picture

18 **PIP SHIFT:**
Move the location of the small screen when viewing as picture-in-picture

19 **FREEZE:**
Freeze a frame from a moving image then press again to cancel the freeze function

20 **SCREEN SIZE:**
Select the screen size

21 **CH ENTER:**
Use the button for control of connected equipment

22 **DISPLAY/INFO:**
Display the current monitor status

23 **+/–:**
Invalid

24 **MUTING:**
Invalid

25 **USER MENU/TOOLS:**
Display the User Menu

26 **ENTER:**
Execute a command

27 **RETURN:**
Return to the previous menu screen

Note:
- *If you set the preset code to MONITOR, buttons 9, 13, 14 and 21 do not operate.*
- *The "9" key is used in Service Factory mode.*

3. BASIC ITEMS FOR SERVICE
3.1 CHECK POINTS AFTER SERVICING

Items to be checked after repair (PDP)

To ensure the quality of the product after repair, check the recommended items shown below:

No.	Procedures	Item to be checked
1	Check if all the symptoms pointed out by the customer have been addressed.	The symptoms in question must not be reproduced.
2	Connect the peripheral equipment.	Connect all external peripheral equipment as originally connected and check if the connections are correct.
3	Check the video and audio.	Tune in to the stations that the customer would normally receive and check if video and audio are normal.
4	Check the buttons and controls.	Use the buttons and controls on the remote control unit and main unit and check if they operate properly.
5	Check the cabinet.	Check for any scratches or dirt that have been made or attached on the cabinet after receiving the product for repair.

See the table below for the items to be checked regarding video and audio:

Item to be checked regarding video	Item to be checked regarding audio
Block noise	Distortion
Horizontal noise	Noise
Dot noise	Volume too low
Disturbed image (video jumpiness)	Volume too high
Too dark	Volume fluctuating
Too bright	Sound interrupted
Mottled color	

Cleaning

Name	Part No.	Remarks
Cleaning paper	GED-008	Used to fan cleaning. Refer to “9.7 CHASSIS SECTION (1/2)”.

3.2 QUICK REFERENCE

Quick Reference upon Service Visit ①
Notes, PD/SD diagnosis, and methods for various settings

Notes when visiting for service

1. Notes when disassembling/reassembling

① **Rear case**
When reassembling the rear case, the screws must be tightened in a specific order. Be careful not to tighten them in the wrong order forcibly. For details, see "Rear Case" in "7. DISASSEMBLY".

② **Attaching screws for the HDMI connector**
When attaching the HDMI connector after replacing the Main Assy, secure the HDMI connector manually with a screwdriver, but not with an electric screwdriver. If you tighten the screws too tightly with an electric screwdriver, the screw heads may be damaged, in which case the screws cannot be untightened/tightened any more.

2. On parts replacement

① **How to discharge before replacing the Assys**
A charge of significant voltage remains in the Plasma Panel even after the power is turned off. Safely discharge the panel before replacement of parts, in either manner indicated below:
A: Let the panel sit at least for 3 minutes after the power is turned off.
B: Turn the Large Signal System off before the power is turned off then, after 1 minute, turn the power off.
For details, see "5.6 [1] PANEL DRIVE-POWER ON/OFF FUNCTION".

② **On the settings after replacement of the Assys**
Some boards need settings made after replacement of the Assys. For details, see "8. EACH SETTING AND ADJUSTMENT".

3. On various settings

① **Setting in Factory mode**
After a Mask indication into the panel is performed, be sure to set the Mask setting to "OFF" then exit Factory mode.

SD

No. of LEDs flashing	Major Type	Detailed Type
Blue 1	Abnormality in the Sequence LSI	Communication error, Drive stop, Busy, Version mismatching (hardware, software), Version mismatching (hardware, backup memory), Version mismatching (hardware, DIGITAL memory)
Blue 2	Failure in MDU device communication	Digital EEPROM, Backup EEPROM, DAC IC
Blue 3	Abnormality in RST2 power decrease	–
Blue 4	Abnormality in panel temperature	Abnormality in high temperature, Abnormality in low temperature
Blue 5	Short-circuiting of the speakers	–
Blue 6	Failure in communication with the module microcomputer	–
Blue 7	Failure in MAIN microcomputer 3-wire serial communication	MULTI, IP microcomputer
Blue 8	Failure in IIC communication with the main microcomputer	Audio IC, RGB switch, Main VDEC, VDEC SDRAM, AD/PLL, HDMI, Temperature sensor, Expansion I/O, DA for FAN
Blue 10	Abnormality in FAN	FAN2
Blue 11	High temperature of the unit	–
Blue 13	Failure in the power supply	DC-DC Converter power decrease
Blue 15	Main EEPROM	Main EEPROM communication error

PD

No. of LEDs flashing	Item
Red 2	POWER
Red 3	SCAN
Red 4	SCN-5V
Red 6	Y-DCDC
Red 7	Y-SUS
Red 8	ADRS
Red 10	X-DCDC
Red 11	X-SUS
Red 12	DIG-DCDC
Red 15	UNKNOWN

LED Display Information

For indication patterns other than described below, see 5.1 [1].

① Rewriting software
B
R

② No backup
B
R

③ PD (2-15)
B
R

④ SD (1-15)
B
R

How to locate several items on the Factory menu

{ } : Item on the Factory menu
[ ] : Key on the remote control unit
" " : Screen indication

1. Confirmation of accumulated power-on time and power-on count
After entering Factory mode, press [P/CH +] four times.

2. Confirmation of the Power-down and Shutdown histories

① **Panel system**
PD: After entering Factory mode, press [ENTER/SET], then press [⬇] twice.
SD: After entering Factory mode, press [ENTER/SET], then press [⬇] three times.

② **MTB section**
After entering Factory mode, press [P/CH +] five times.

3. How to display the Mask indication

① **Mask indication in the panel side**
1. Select {PANEL FACTORY} then {RASTER MASK SETUP}.
After entering Factory mode, press [ENTER/SET], then press [⬇] 8 times.
2. Press [ENTER/SET], then select a Mask indication, using [⬆] or [⬇].

Adjustments and Settings after replacement of the Assys (Procedures in Factory mode)

1. Digital Video Assy: Transfer of backup data
① Select {PANEL FACTORY}, {ETC}, then {BACKUP DATA}. (After entering Factory mode, press [MUTING] once, press [ENTER/SET], press [⬇] seven times, then press [ENTER/SET].)
② Select {TRANSFER}, using [➡], then hold [ENTER/SET] pressed for at least 5 seconds.
③ After transfer of backup data is completed, {ETC} is automatically selected, and the LED on the front panel returns to normal lighting.

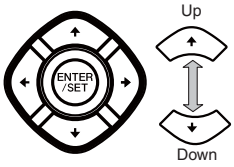
2. MAIN Assy: Execution of FINAL SETUP.
① Display Page 3/11 of Factory menu.
(To display this page, enter Factory mode then press the [P/CH +] three times.)
② Set the factory-preset value to {FINAL SETUP}, using the [➡].
② Press [MUTING], press [⬆], press [⬇], then press [MUTING].
"SET" is displayed in red then disappears. Then the setting is completed.

3. POWER SUPPLY Unit: Clearance of the accumulated power-on count and maximum temperature value
① Select {PANEL FACTORY}, {ETC}, then {P COUNT INFO}.
(After entering Factory mode, press [ENTER/SET], press [⬇] seven times, press [ENTER/SET], then press [⬇] six times.)
② Press [➡] to select "CLEAR". Hold [ENTER/SET] pressed for at least 5 seconds. After clearance is completed, "ETC" is automatically selected. Clear the maximum temperature value (MAX TEMP) in the same manner.

4. Other Assys: Clearance of the maximum temperature value
① Select {PANEL FACTORY}, {ETC}, then {MAX TEMP}.
(After entering Factory mode, press [ENTER/SET], press [⬇] seven times, press [ENTER/SET], then press [⬇] seven times.)
② Press [➡] to select "CLEAR". Hold [ENTER/SET] pressed for at least 5 seconds. After clearance is completed, "ETC" is automatically selected.

Quick Reference upon Service Visit ②
Mode transition and structure of layers in Service Factory mode

Mode transition in Service Factory mode



Basic operation

FACTORY MENU
- To shift to another page, press [P/CH +] or [P/CH -].
- To move the cursor, press [⬆] or [⬇].
- To change the setting item, press [➡] or [⬅].

PANEL FACTORY
- To shift to another mode, press [MUTING].
- To shift to another item in a specific mode, press [⬆] or [⬇].
- To shift to the next nested layer below for an item with a "(+)" indication, press [ENTER/SET]. To return to the next nested layer above, also press [ENTER/SET].

FACTORY MENU
1. VERSION (1)*
2. VERSION (2)
3. OPTION
4. MONITOR INFORMATION
5. MAIN NG
6. HDMI SIGNAL INFO 1
7. HDMI SIGNAL INFO 2
8. VDEC SIGNAL INFO
9. SYNC DET1
10. SYNC DET2
11. PANEL FACTORY

P/CH + or – key

ENTER /SET

PANEL FACTORY
1. PANEL INFORMATION
2. PANEL WORKS
3. POWER DOWN
4. SHUT DOWN
5. PANEL-1 ADJ
6. PANEL-2 ADJ
7. PANEL FUNCTION
8. ETC.
9. RASTER MASK SETUP
10. PATTEN MASK SETUP
11. COMBI MASK SETUP

Structure of Layers in Service Factory Mode

FACTORY MENU

1. VERSION (1)	Version of each flash-memory device is displayed. (common to models for destinations)
2. VERSION (2)	Version of each flash-memory device is displayed. (specific to each model)
3. OPTION	
1. FINAL SETUP	For factory presetting
2. PIC. FREEZE	For enabling/disabling the freeze function
3. SIDE MASK LEVEL	For level adjustment of side mask
4. ISF MODE	For enabling/disabling ISF mode
4. MONITOR INFORMATION	
1. MODEL NAME	The model name is displayed.
2. SERIAL NUMBER	The serial number is displayed.
3. M-UCOM VERSION	Version of main microcomputer is displayed.
4. HOUR METER	The accumulated power-o duration of MTB is displayed. /Change the setting (PRO-141FD only)
5. P-COUNT	The number of times of power-on at the panel is displayed.
6. TEMPERATURE	The temperature information is displayed.
7. FAN	The control A/D value of fan is displayed.
8. B-SENSOR	The value of temperature sensor is displayed.
5. MAIN NG	A shutdown generated at the MTB and the time of generation are displayed.
6. HDMI SIGNAL INFO 1	Information of INFO. file of the HDMI is displayed and change the setting.
7. HDMI SIGNAL INFO 2	Information of INFO. file of the HDMI is displayed and change the setting.
8. VDEC SIGNAL INFO	The state for electric wave input to the GCR/MVDEC/ SVDEC are displayed.
9. SYNC DET1	For technical analysis
10. SYNC DET2	For technical analysis
11. PANEL FACTORY	Enter the PANEL FACTORY.

Structure of Layers in Panel Factory Mode 1

1. PANEL INFORMATION	Version indication of the panel
2. PANEL WORKS	Indications of the accumulated power-on time and power-on count of the panel
3. POWER DOWN	Indication of the Power-down history
4. SHUT DOWN	Indication of the Shutdown history
5. PANEL-1 ADJ (+)	
1. VOL SUS	Settings required after replacement of the panel
2. VOL OFFSET	
• • • • •	
10. RESET1ST_KSB	Items for factory use
• • • • •	
25. SUS FREQ	For AM noise prevention (Depending on the mode, brightness of the screen changes.) For confirmation of the result of the setting change, the unit must be turned off then back on again.
6. PANEL-2 ADJ (+)	
1. R-HIGH	For the WB adjustment of the panel and ABL adjustment. A setting table is available for each signal frequency.
2. G-HIGH	
• • • • •	
6. B-LOW	
7. ABL	
7. PANEL FUNCTION (+)	
1. R-LEVEL	Items for factory use
• • • • •	

To "Structure of Layers in Panel Factory Mode 2"

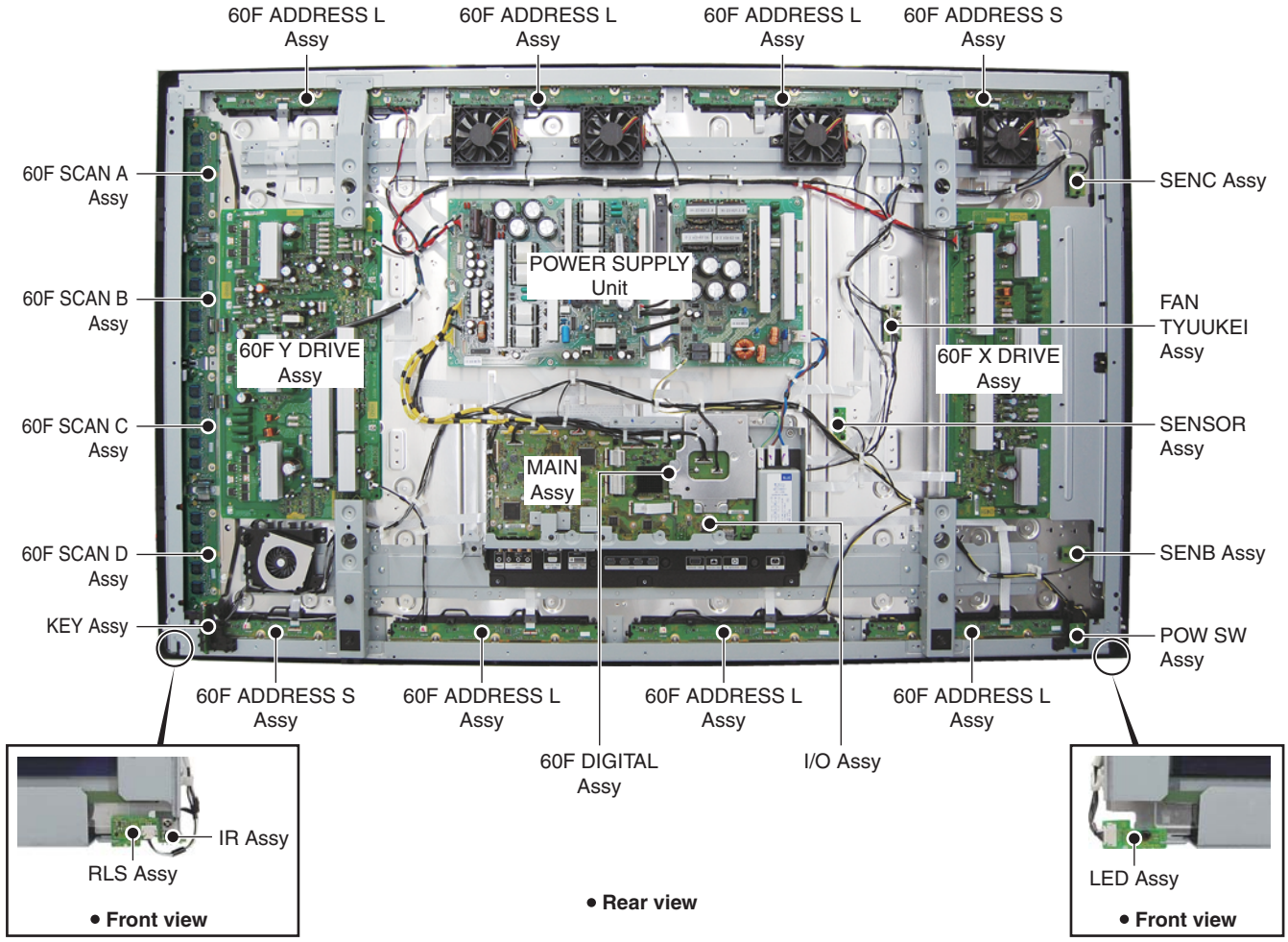
Structure of Layers in Panel Factory Mode 2

8. ETC (+)	
1. BACKUP DATA	For transferring backup data (after replacement of the DIGITAL Assy)
2. DIGITAL EEPROM	Change the adjustment status of the DIGITAL Assy.
3. PD INFO.	For clearance of data for the corresponding items. The clearing method is the same: Select "CLEAR", then hold [ENTER/SET] pressed for at least 5 seconds.
4. SD INFO.	
5. HR-MTR INFO.	
6. PM/B1-B5	
7. P COUNT INFO.	
8. MAX TEMP.	
9. MIRROR	Switch the Mirror display mode.
10. CLS	Switch the function when checking the color sensor level.
9. RASTER MASK SETUP (+)	
1. MASK OFF	For use while the Raster Mask is displayed. Use [⬆] or [⬇] to select the type of mask. Use [➡] or [⬅] to select the sequence.
2. RST MASK 01	
• • • • •	
10. PATTERN MASK SETUP (+)	
1. MASK OFF	For use while the Pattern Mask is displayed. Use [⬆] or [⬇] to select the type of mask. Use [➡] or [⬅] to select the sequence.
2. PTN MASK 01	
• • • • •	
11. COMBI MASK SETUP (+)	
1. MASK OFF	For use while the Combination Mask is displayed. Use [⬆] or [⬇] to select the type of mask. Use [➡] or [⬅] to select the sequence.
2. CMB MASK 01	
• • • • •	

3.3 PCB LOCATIONS

Note: The wiring shown in the photo is different from the actual wiring, because the product in the photo is a prototype. Upon servicing, be sure to restore the original wiring of the unit after repair work.

• This photo. is PRO-141FD.



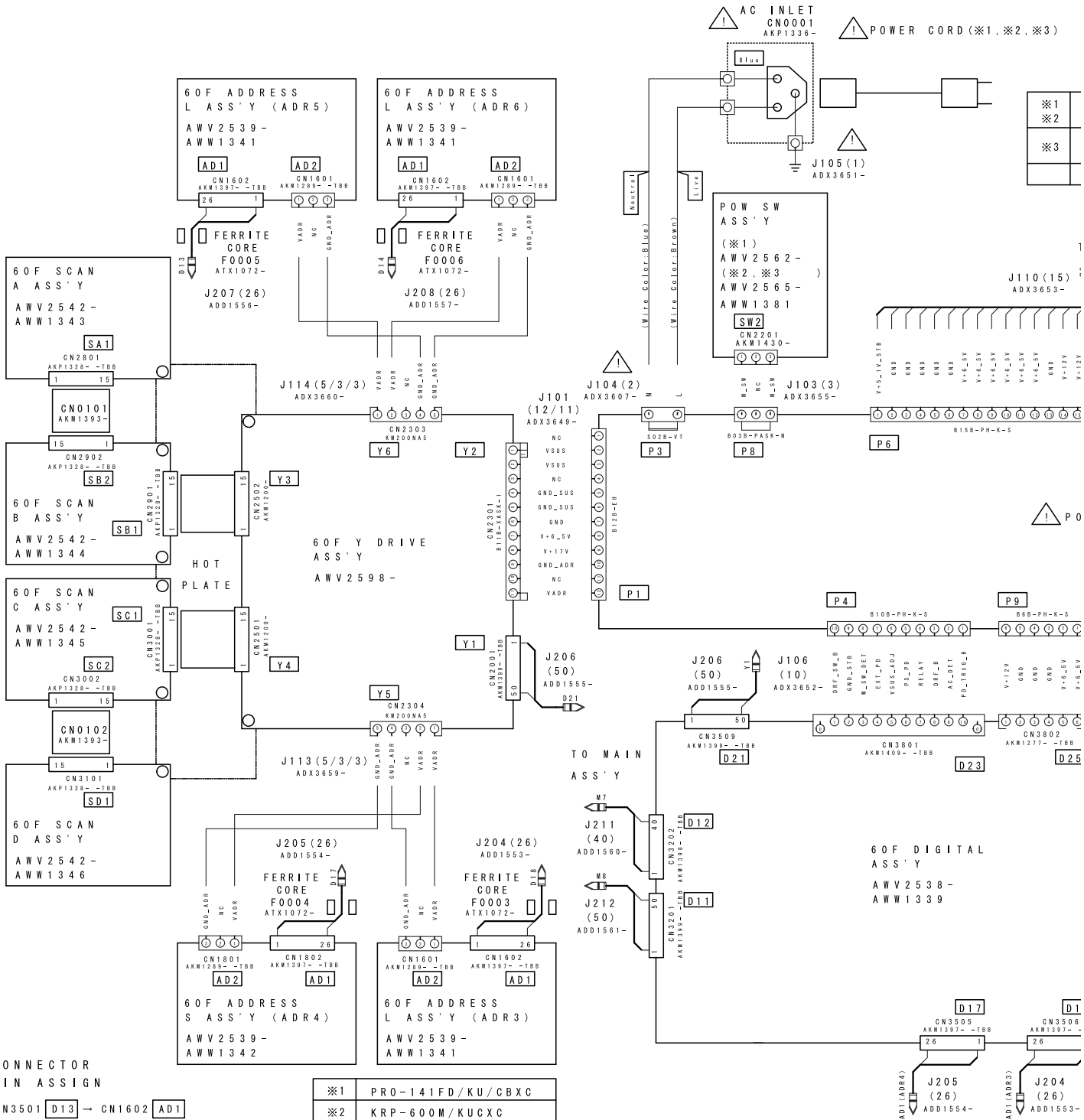
NOTES: ● *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
● *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*

LIST OF ASSEMBLIES

Mark	No.	Description	Part No.
(PDP Panel)			
NSP		60F ADDRESS L ASSY	AWW1341
NSP		60F ADDRESS S ASSY	AWW1342
NSP		60F SCAN A ASSY	AWW1343
		└ IC2801 - IC2804	AN16184A
NSP		60F SCAN B ASSY	AWW1344
		└ IC2901 - IC2904	AN16184A
NSP		60F SCAN C ASSY	AWW1345
		└ IC3001 - IC3004	AN16184A
NSP		60F SCAN D ASSY	AWW1346
		└ IC3101 - IC3104	AN16184A
		60F DIGITAL Assy	AWW1339
		SENSOR ASSY	AWW1340
		60F X DRIVE ASSY	AWV2597
		60F Y DRIVE ASSY	AWV2598

Mark	No.	Description	Part No.
(MTB)			
		LED ASSY	AWW1374
		SENB ASSY	AWW1375
		SENC ASSY	AWW1376
		RLS ASSY	AWW1378
		MAIN ASSY (PRO-141FD)	AWW1373
		MAIN ASSY (KRP-600M)	AWW1384
		IR ASSY	AWW1380
		POW SW ASSY	AWW1381
		KEY ASSY	AWW1382
		I/O ASSY (PRO-141FD)	AWW1379
		I/O ASSY (KRP-600M)	AWW1385
		FAN TYUUKEI ASSY	AWW1391
(Power Supply)			
⚠		POWER SUPPLY UNIT	AXY1201
(Service Assy)			
		PDP SERVICE ASSY 609FE	AWU1347

4. BLOCK DIAGRAM
4.1 OVERALL WIRING DIAGRAM (1/2)



CONNECTOR PIN ASSIGN

CN3501	D13	→	CN1602	AD1
CN3502	D14	→	CN1602	AD1
CN3503	D15	→	CN1602	AD1
CN3504	D16	→	CN1802	AD1
CN3505	D17	→	CN1802	AD1
CN3506	D18	→	CN1602	AD1
CN3507	D19	→	CN1602	AD1
CN3508	D20	→	CN1602	AD1

1→26. V+10V	14→13. CLKN		
2→25. V+10V	15→12. CLKP		
3→24. GND	16→11. GND		
4→23. GND	17→10. DN		
5→22. AN	18→ 9. DP		
6→21. AP	19→ 8. GND		
7→20. GND	20→ 7. GND		
8→19. BN	21→ 6. V+3_3V		
9→18. BP	22→ 5. V+3_3V		
10→17. GND	23→ 4. V+3_3V		
11→16. CN	24→ 3. GND		
12→15. CP	25→ 2. LSI		
13→14. GND	26→ 1. ADR_PD		

※1	PRO-141FD/KU/CBXC
※2	KRP-600M/KUCXC
※3	KRP-600M/YVPSLFTD KRP-600M/TYVXK5

CN2501 Y4 → CN3001 SC1

1. VH	8. GNDH_DIG		
2. VH	9. CLK_L		
3. NC	10. LE		
4. NC	11. OC1		
5. GNDH_VH	12. OC2		
6. GNDH_VH	13. CLR		
7. SI	14. GNDH_RL		
8. GNDH_DIG	15. IC5V		

CN2502 Y3 → CN2901 SB1

1. VH	8. GNDH_DIG		
2. VH	9. LE		
3. NC	10. OC1		
4. NC	11. OC2		
5. GNDH_VH	12. CLR		
6. GNDH_VH	13. SI		
7. CLK_H	14. GNDH_RH		
8. GNDH_DIG	15. IC5V		

CN2801 SA1 → CN2902 SB2

1→15. VH	8→ 6. LE		
2→14. NC	9→ 7. CLK_H		
3→13. NC	10→ 6. LE		
4→12. GNDH_VH	11→ 5. OC1		
5→11. NC	12→ 4. OC2_H		
6→10. SI_A	13→ 3. CLR		
7→ 9. J_SI	14→ 2. GNDH_RH		
8→ 8. GNDH_DIG	15→ 1. IC5V		

CN3002 SC2 → CN3101 SD1

1→15. VH	8→ 6. OC2_L		
2→14. NC	9→ 7. CLR		
3→13. NC	10→ 6. OC2_L		
4→12. GNDH_VH	11→ 5. OC1		
5→11. NC	12→ 4. LE		
6→10. SI_D	13→ 3. CLK_L		
7→ 9. J_SI	14→ 2. GNDH_RL		
8→ 8. GNDH_DIG	15→ 1. IC5V		

CN3509 D21 → CN2001 Y1

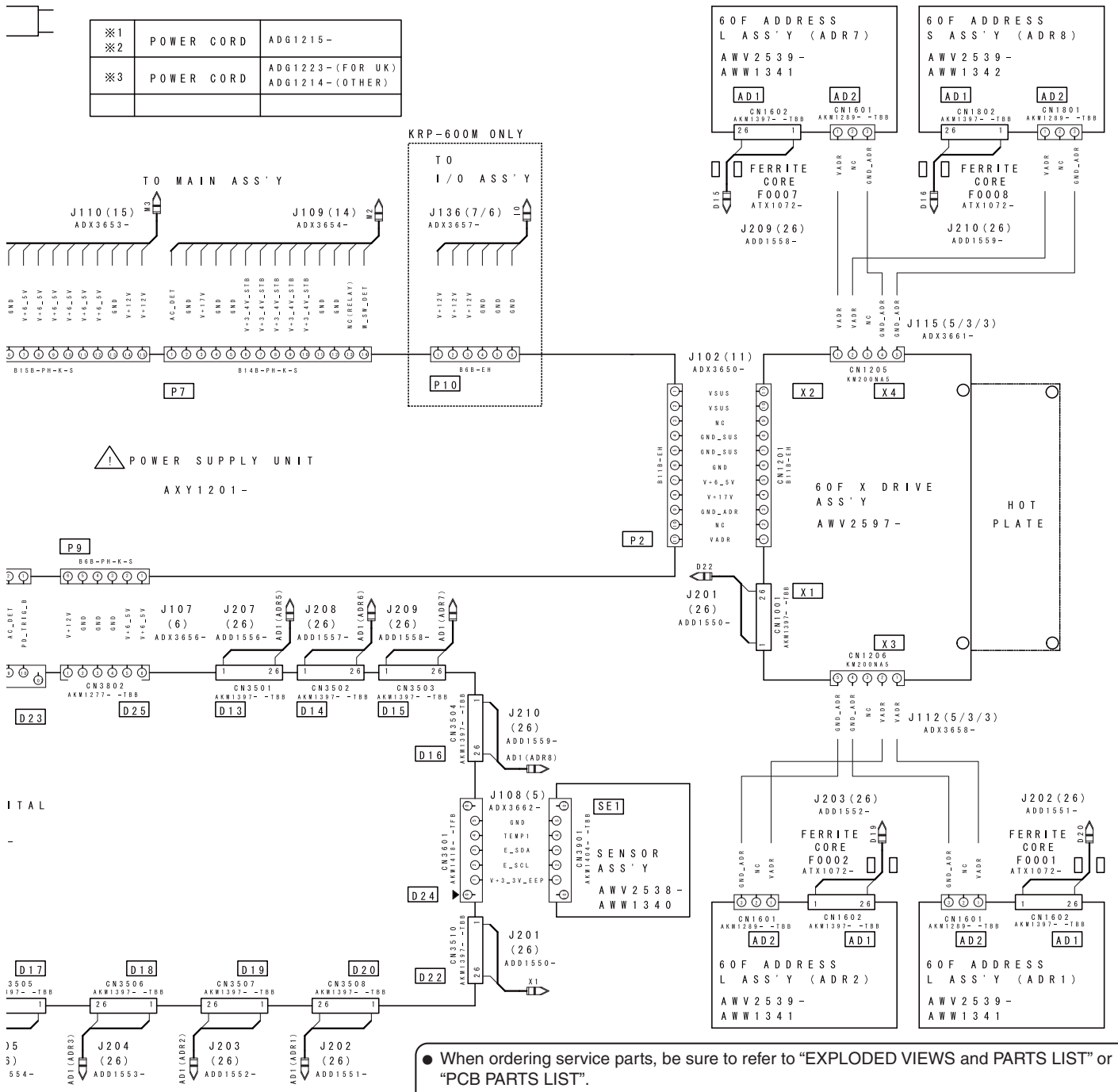
1→50. YCN_PD	18→33. SUS_MUTE	35→16. YRSV4
2→49. VYPRST_ADJ	19→32. YSNOFS	36→15. SI
3→48. SCAN_PD	20→31. GND	37→14. CLK_H
4→47. GND	21→30. YRST-D	38→13. GND
5→46. YDD_PD	22→29. YSUS_LMSK	39→12. LE
6→45. VOFS_ADJ	23→28. YSUS_HMSK	40→11. OC1
7→44. YSUS_PD	24→27. GND	41→10. OC2
8→43. GND	25→26. YSUS_D	42→ 9. CLR
9→42. YRSV1	26→25. YPR-U	43→ 8. GND
10→41. YRSV2	27→24. YSUS_G	44→ 7. VKNOFS4_ADJ
11→40. GND	28→23. GND	45→ 6. VKNOFS3_ADJ
12→39. YKNOFS4	29→22. YSUS_U	46→ 5. VKNOFS1_2_ADJ
13→38. YKNOFS3	30→21. YRSV3	47→ 4. GND
14→37. YKNOFS2	31→20. YSUS_B	48→ 3. SCN5V_PD
15→36. YKNOFS1	32→19. ESW	49→ 2. YDRV_PD(GND)
16→35. GND	33→18. GND	50→ 1. PSW2
17→34. YSOFT-G	34→17. CLK_L	

CN3201

1→50. V	8→ 6. G		
2→49. N	9→ 5. R		
3→48. G	10→ 4. T		
4→47. M	11→ 3. G		
5→46. R	12→ 2. H		
6→45. R	13→ 1. D		
7→44. R	14→		
8→43. T	15→		
9→42. G	16→		
10→41. T	17→		
11→40. V	18→		
12→39. H	19→		
13→38. D	20→		
14→37. G	21→		
15→36. C	22→		
16→35. G	23→		
17→34. R	24→		

RD (※1, ※2, ※3)

※1 ※2	POWER CORD	ADG1215-
※3	POWER CORD	ADG1223-(FOR UK) ADG1214-(OTHER)



- When ordering service parts, be sure to refer to “EXPLODED VIEWS and PARTS LIST” or “PCB PARTS LIST”.
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

CN3201 D11 → CN4002 M8

1→50. V+3_4V_ACT2	18→33. R8_EVN	35→16. G2_EVN
2→49. NC	19→32. R7_EVN	36→15. G1_EVN
3→48. GND	20→31. R6_EVN	37→14. G0_EVN
4→47. MULTI_OE	21→30. R5_EVN	38→13. GND
5→46. RELAY2	22→29. R4_EVN	39→12. B9_EVN
6→45. REQ_MD	23→28. R3_EVN	40→11. B8_EVN
7→44. RXD_MD	24→27. R2_EVN	41→10. B7_EVN
8→43. TXD_MD	25→26. R1_EVN	42→ 9. B6_EVN
9→42. GND	26→25. R0_EVN	43→ 8. B5_EVN
10→41. THEATER	27→24. GND	44→ 7. B4_EVN
11→40. VD	28→23. G9_EVN	45→ 6. B3_EVN
12→39. HD	29→22. G8_EVN	46→ 5. B2_EVN
13→38. DE	30→21. G7_EVN	47→ 4. B1_EVN
14→37. GND	31→20. G6_EVN	48→ 3. B0_EVN
15→36. CLK	32→19. G5_EVN	49→ 2. GND
16→35. GND	33→18. G4_EVN	50→ 1. MODE_A
17→34. R9_EVN	34→17. G3_EVN	

CN3202 D12 → CN4001 M7

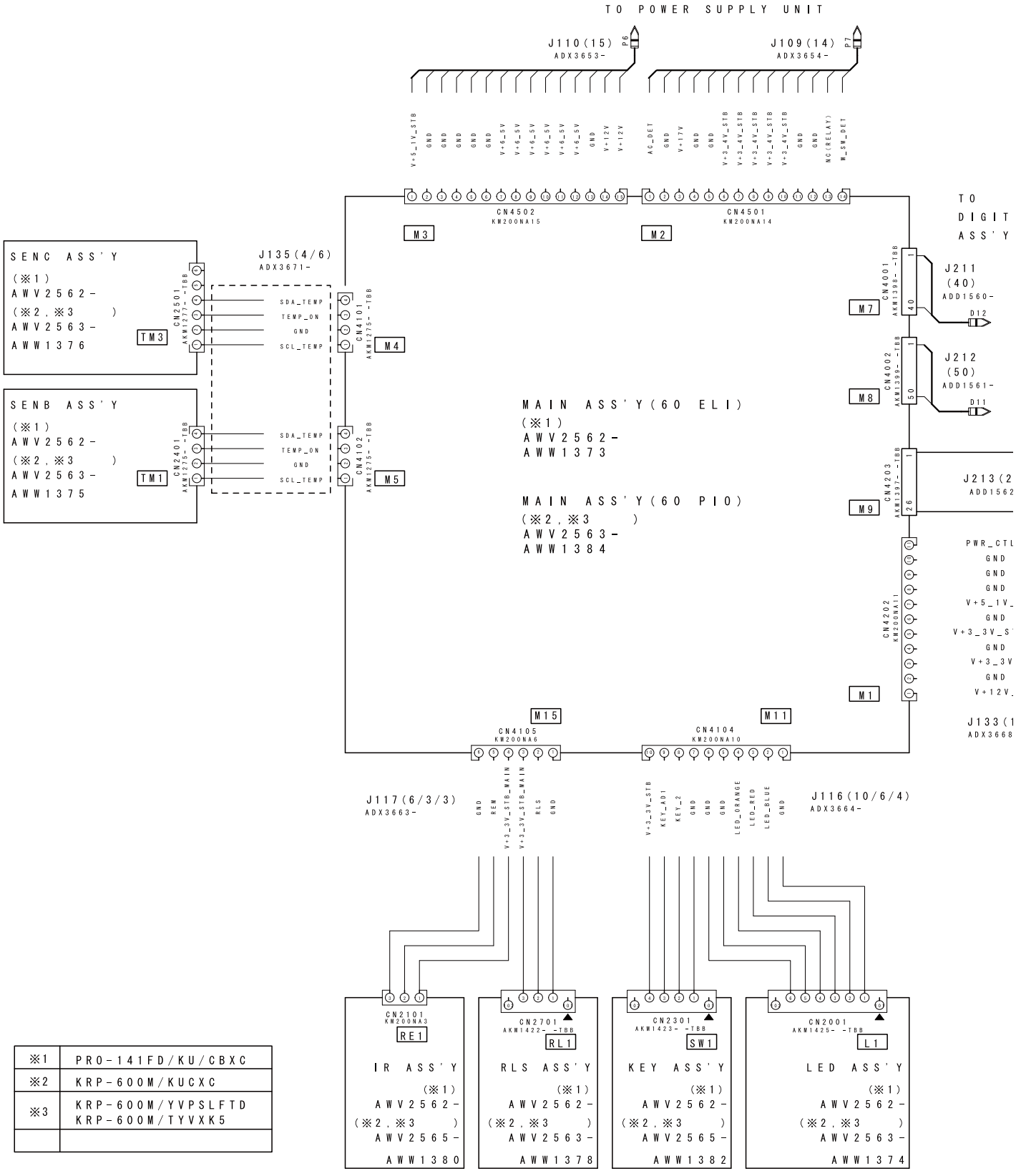
1→40. MODE_B	11→30. R3_ODD	21→20. G4_ODD	31→10. B5_ODD
2→39. SO_SEL	12→29. R2_ODD	22→19. G3_ODD	32→ 9. B4_ODD
3→38. GND	13→28. R1_ODD	23→18. G2_ODD	33→ 8. B3_ODD
4→37. GND	14→27. R0_ODD	24→17. G1_ODD	34→ 7. B2_ODD
5→36. R9_ODD	15→26. GND	25→16. G0_ODD	35→ 6. B1_ODD
6→35. R8_ODD	16→25. G9_ODD	26→15. GND	36→ 5. B0_ODD
7→34. R7_ODD	17→24. G8_ODD	27→14. B9_ODD	37→ 4. GND
8→33. R6_ODD	18→23. G7_ODD	28→13. B8_ODD	38→ 3. GND
9→32. R5_ODD	19→22. G6_ODD	29→12. B7_ODD	39→ 2. GND
10→31. R4_ODD	20→21. G5_ODD	30→11. B6_ODD	40→ 1. MODE_G

CN3510 D22 → CN1001 X1

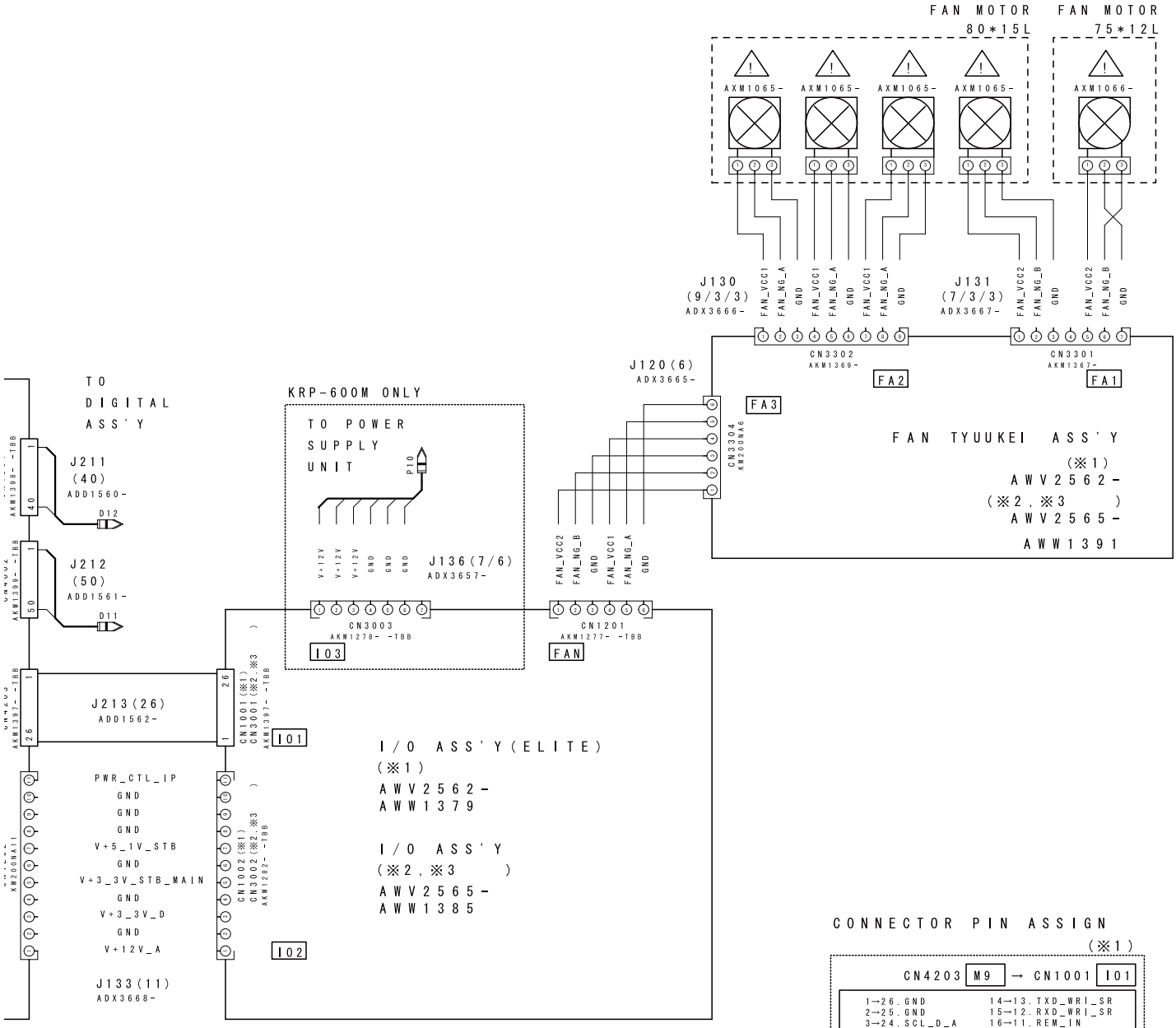
1→26. XSUS_B	14→13. GND	
2→25. GND	15→12. XSOFT_D	
3→24. XSUS_U	16→11. GND	
4→23. GND	17→10. SUS_MUTE	
5→22. XSUS_D	18→ 9. GND	
6→21. GND	19→ 8. XKOFS1_ADJ	
7→20. XSUS_G	20→ 7. XKOFS2_ADJ	
8→19. GND	21→ 6. GND	
9→18. XPRST	22→ 5. XDD_PD	
10→17. GND	23→ 4. PSW2	
11→16. XKOFS1	24→ 3. XRSV1	
12→15. GND	25→ 2. Psize	
13→14. XKOFS2	26→ 1. XSUS_PD	

OVERALL DIAGRAM
PRO-141FD
KRP-600M

4.2 OVERALL WIRING DIAGRAM (2/2)



※1	PRO-141FD/KU/CBXC
※2	KRP-600M/KUCXC
※3	KRP-600M/YVPSLFTD KRP-600M/TYVXK5



CONNECTOR PIN ASSIGN

(※1)

CN4203 M9 → CN1001 I01

1→26.GND	14→13.TXD_WRI_SR
2→25.GND	15→12.RXD_WRI_SR
3→24.SCL_D_A	16→11.REM_IN
4→23.SDA_D_A	17→10.GND
5→22.FAN_B_ON	18→ 9.GND
6→21.FAN_A_ON	19→ 8.GND
7→20.FAN_NG_B	20→ 7.GND
8→19.FAN_NG_A	21→ 6.GND
9→18.GND	22→ 5.GND
10→17.TXD_232C	23→ 4.GND
11→16.RXD_232C	24→ 3.GND
12→15.TXD_IP	25→ 2.GND
13→14.RXD_IP	26→ 1.GND

(※2,※3)

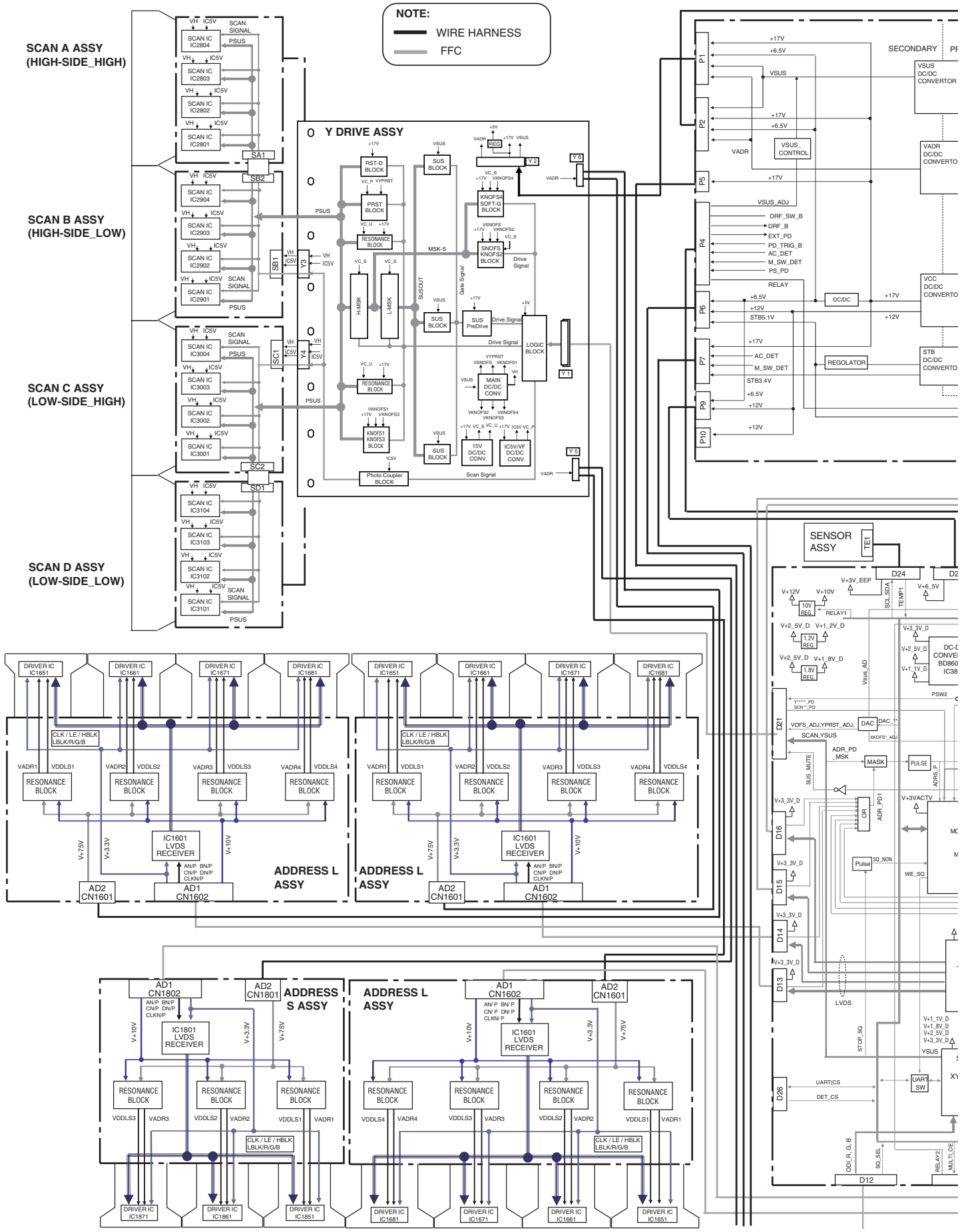
CN4203 M9 → CN3001 I01

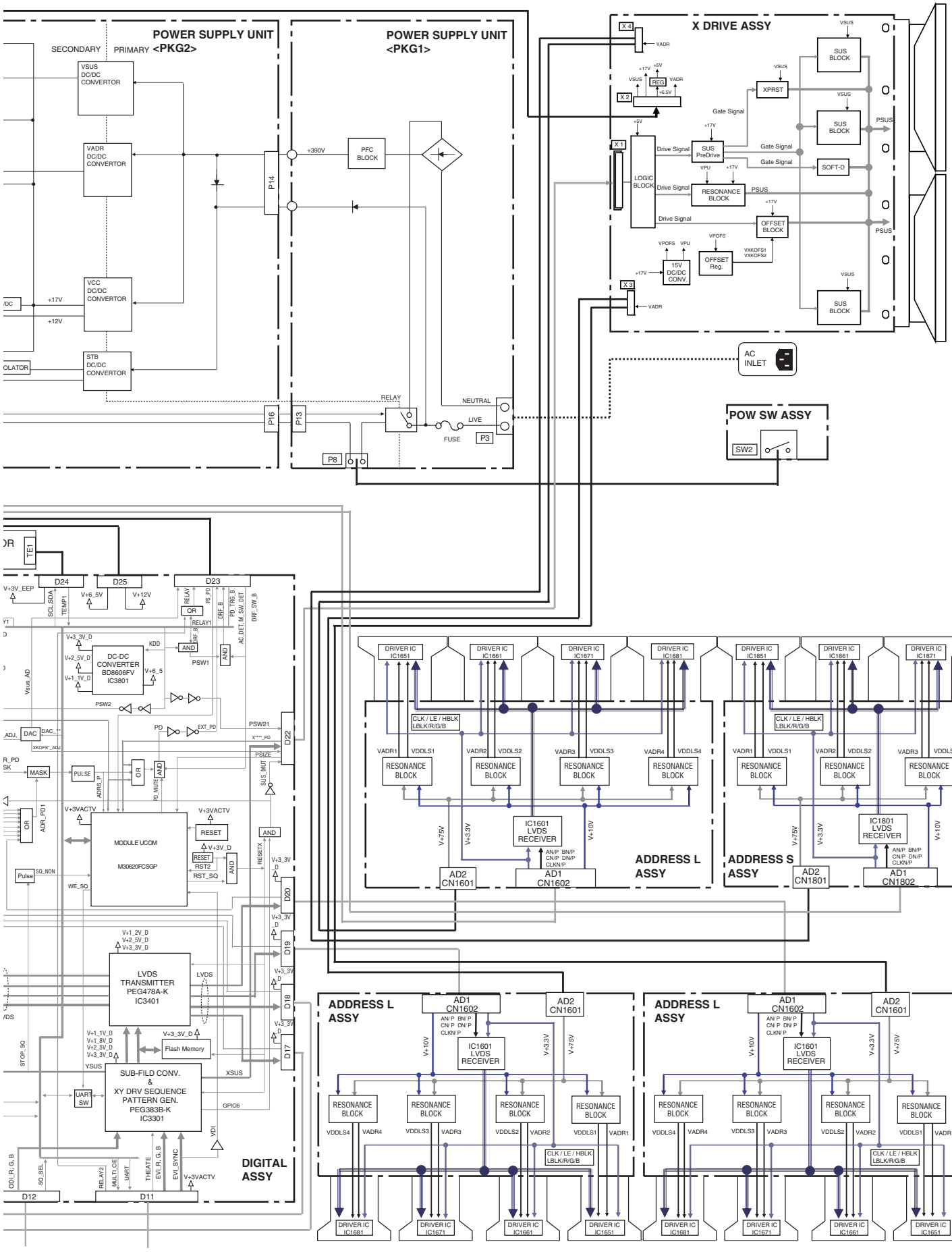
1→26.CE_AU	14→13.TXD_WRI_SR
2→25.GND	15→12.RXD_WRI_SR
3→24.SCL_D_A	16→11.REM_IN
4→23.SDA_D_A	17→10.GND
5→22.FAN_B_ON	18→ 9.SCL_AU
6→21.FAN_A_ON	19→ 8.SDA_AU
7→20.FAN_NG_B	20→ 7.SP_ALM
8→19.FAN_NG_A	21→ 6.MUTE
9→18.GND	22→ 5.GND
10→17.TXD_232C	23→ 4.HDMI_R
11→16.RXD_232C	24→ 3.GND
12→15.TXD_IP	25→ 2.HDMI_L
13→14.RXD_IP	26→ 1.GND

The ⚠ mark found on some component parts
should be replaced with same parts
(safety regulation authorized) of identical designation.

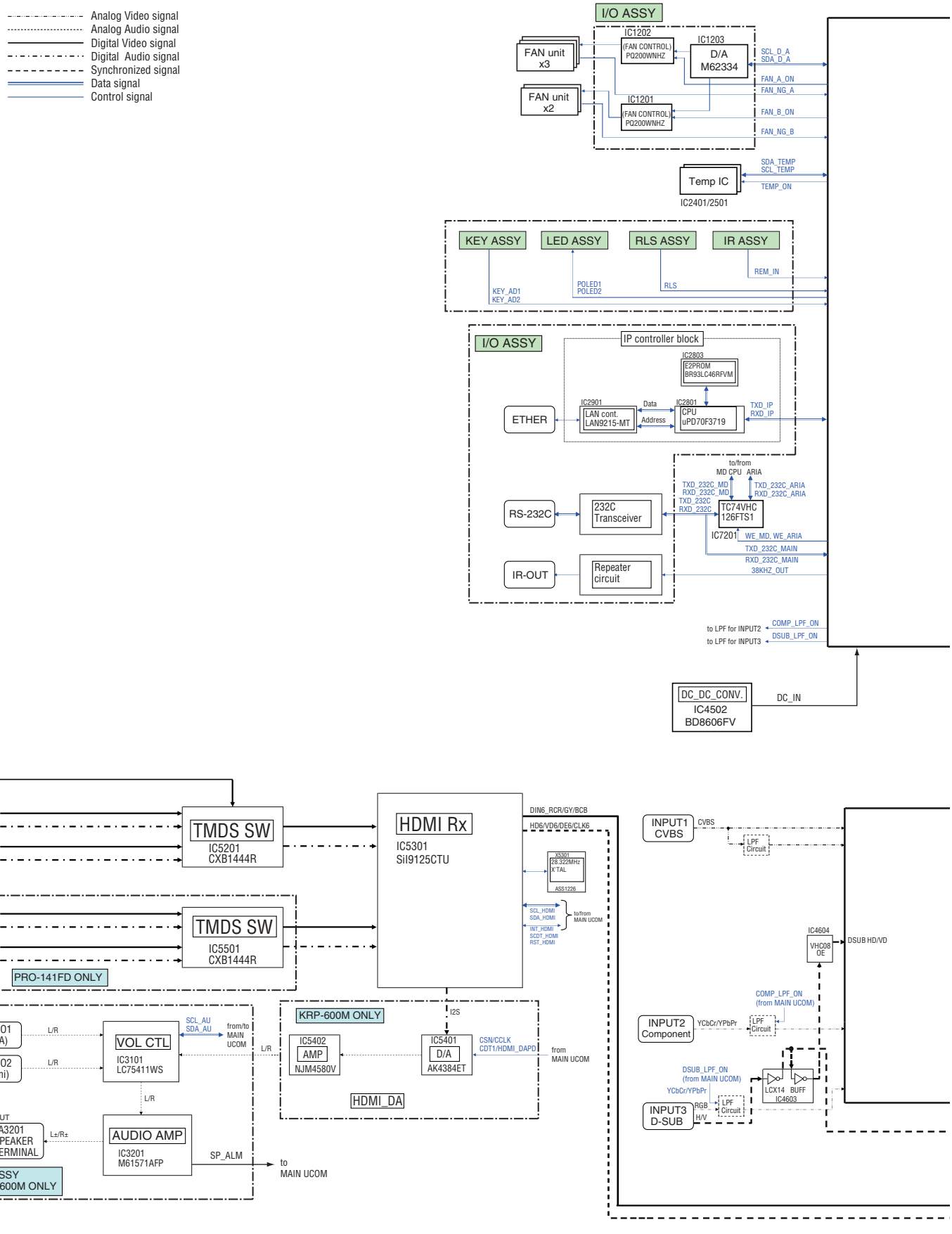
OVERALL DIAGRAM
PRO-141FD
KRP-600M

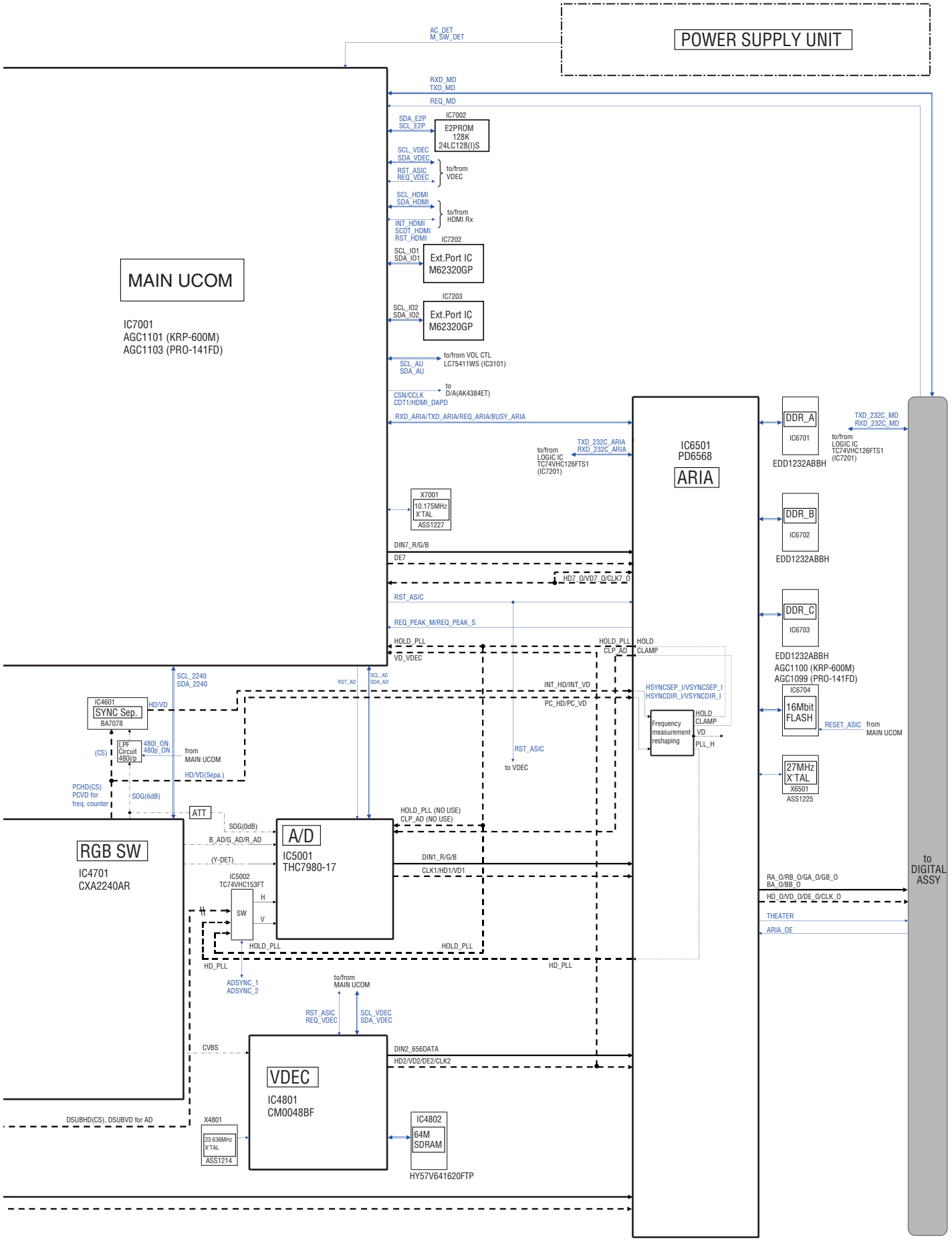
4.3 OVERALL BLOCK DIAGRAM (1/2)



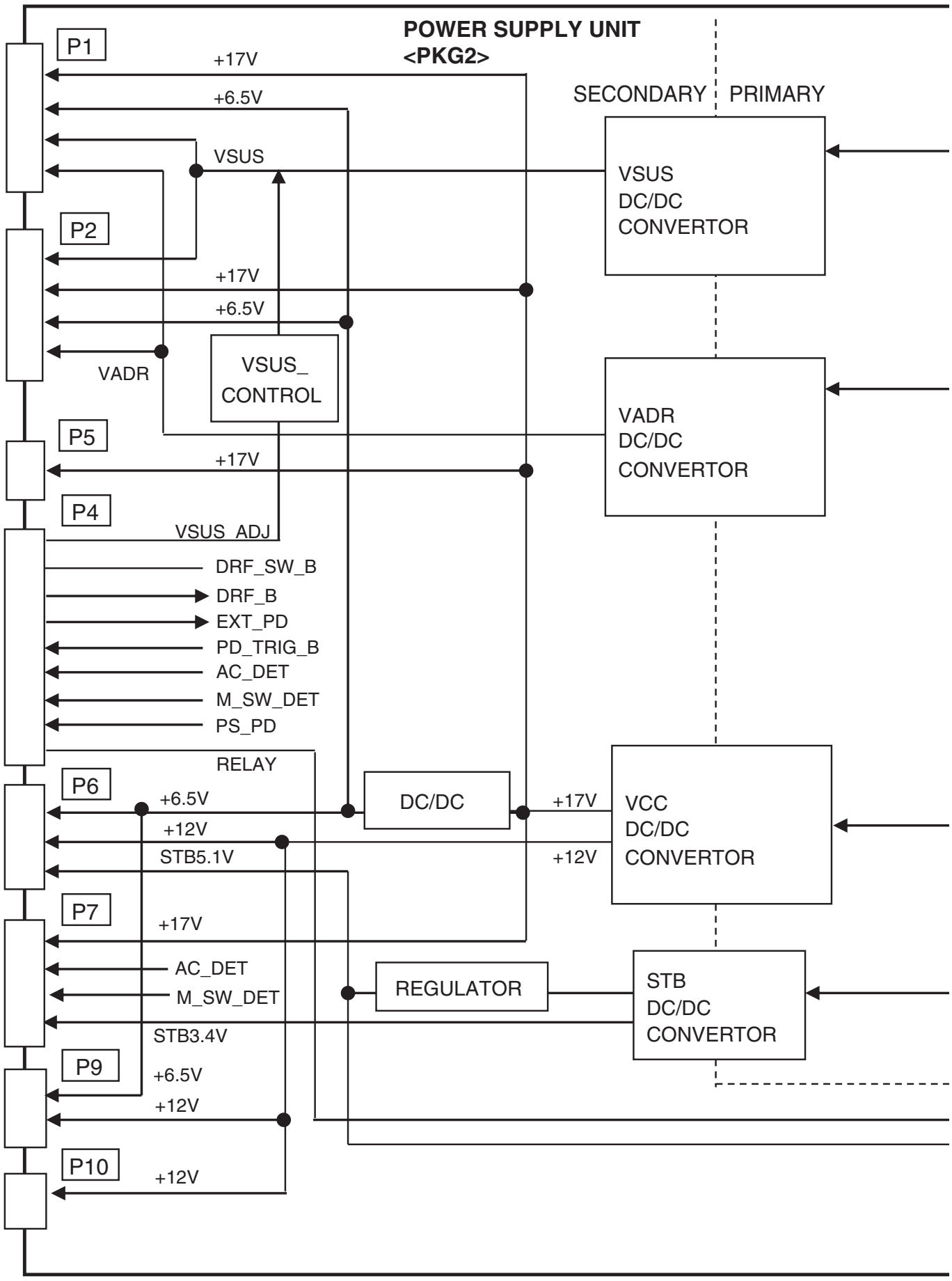

POWER SUPPLY UNIT
<PKG2>
SECONDARY
PRIMARY
VSUS DC/DC CONVERTOR
VADR DC/DC CONVERTOR
VCC DC/DC CONVERTOR
STB DC/DC CONVERTOR
+17V
+12V
POWER SUPPLY UNIT
<PKG1>
P14
+390V
PFC BLOCK
P16
P13
RELAY
NEUTRAL
LIVE
FUSE
P3
P8
X DRIVE ASSY
X 4
X 2
X 1
X 3
VADR
REG
+17V
+5V
+6.5V
VSUS
XPRST
SUS BLOCK
Gate Signal
SUS PreDrive
Drive Signal
LOGIC BLOCK
RESONANCE BLOCK
SOFT-D
OFFSET BLOCK
OFFSET Reg.
15V DC/DC CONV.
VPU
VPOFS
VXKOFS1
VXKOFS2
PSUS
AC INLET
POW SW ASSY
SW2
TE1
D24
D25
D23
V+3V_EEP
V+6_5V
V+12V
SCL_SDA
TEMP1
RELAY
RS_PD
DRF_B
PD_TRG_B
AC_DET
M_SW_DET
DRF_SW_B
RELAY1
V+3_3V_D
V+2_5V_D
V+1_1V_D
DC-DC CONVERTER BD8606FV IC3801
KDD
AND
PSW1
PSW2
V+6_5
PD
EXT_PD
PSW21
PSIZE
D22
DAC
MASK
PULSE
ADRS_P
OR
PD_MUTE
SUS_MUT
ADR_PD1
V+3VACTV
MODULE UCOM
M30620FCSGP
RESET
RST2
RST_SQ
RESETX
Pulse
SQ_NON
WE_SQ
D20
D19
D18
D17
LVDS TRANSMITTER PEG478A-K IC3401
LVDS
Flash Memory
STOP_SQ
YSUS
XSUS
SUB-FILD CONV. & XY DRV SEQUENCE PATTERN GEN. PEG383B-K IC3301
UART SW
GPIO8
VDI
ODI_R, G, B
SQ_SEL
RELAY2
MULTI_OE
UART
THEATE
EVI_R, G, B
EVI_SYNC
D12
D11
DIGITAL ASSY
DRIVER IC IC1651
DRIVER IC IC1661
DRIVER IC IC1671
DRIVER IC IC1681
DRIVER IC IC1851
DRIVER IC IC1861
DRIVER IC IC1871
CLK / LE / HBLK LBLK/R/G/B
VADR1
VDDLS1
VADR2
VDDLS2
VADR3
VDDLS3
VADR4
VDDLS4
RESONANCE BLOCK
IC1601 LVDS RECEIVER
IC1801 LVDS RECEIVER
AN/P BN/P CN/P DN/P CLKN/P
V+75V
V+3.3V
V+10V
AD2 CN1601
AD1 CN1602
AD2 CN1801
AD1 CN1802
ADDRESS L ASSY
ADDRESS S ASSY

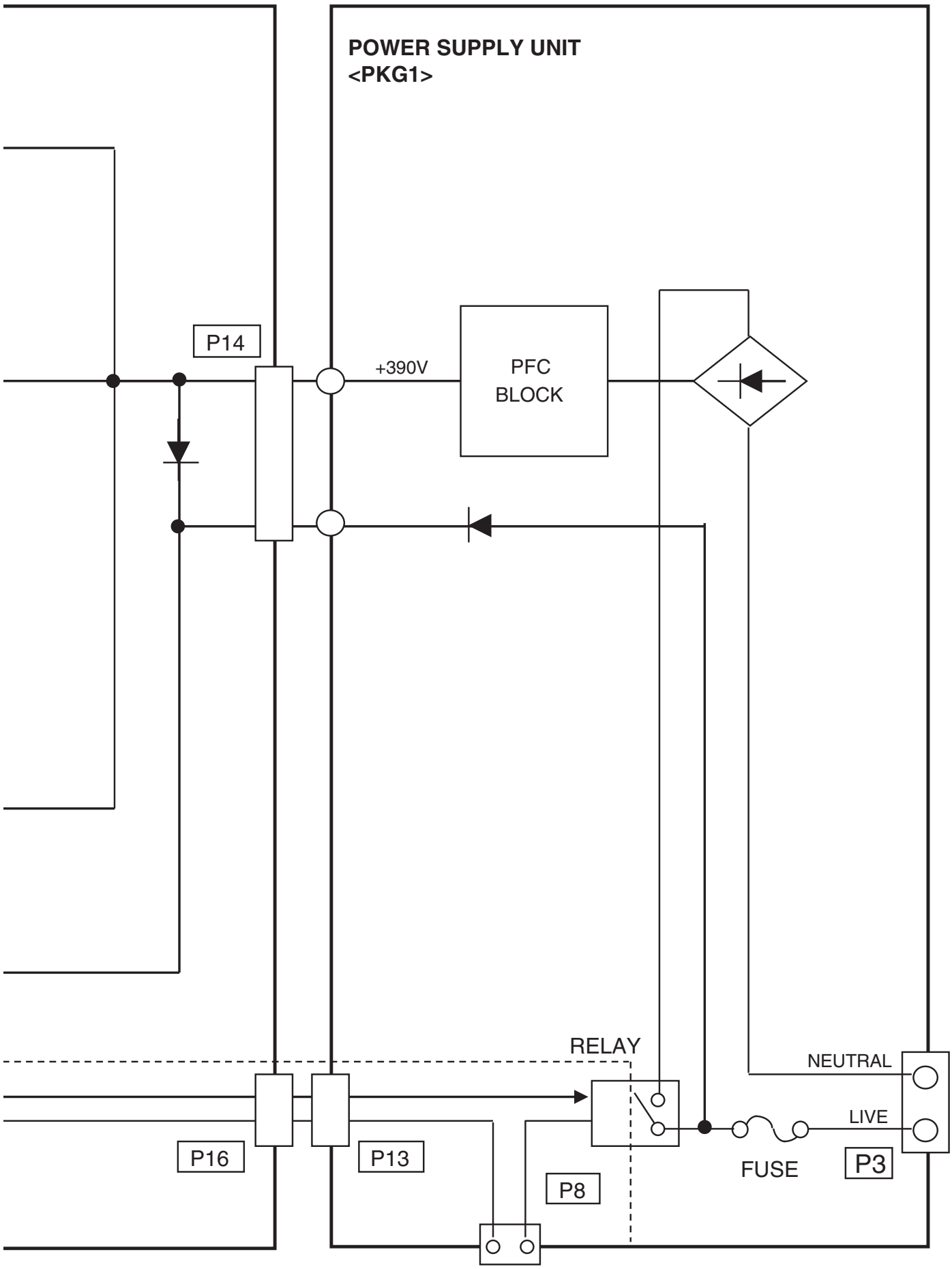
4.4 OVERALL BLOCK DIAGRAM (2/2)



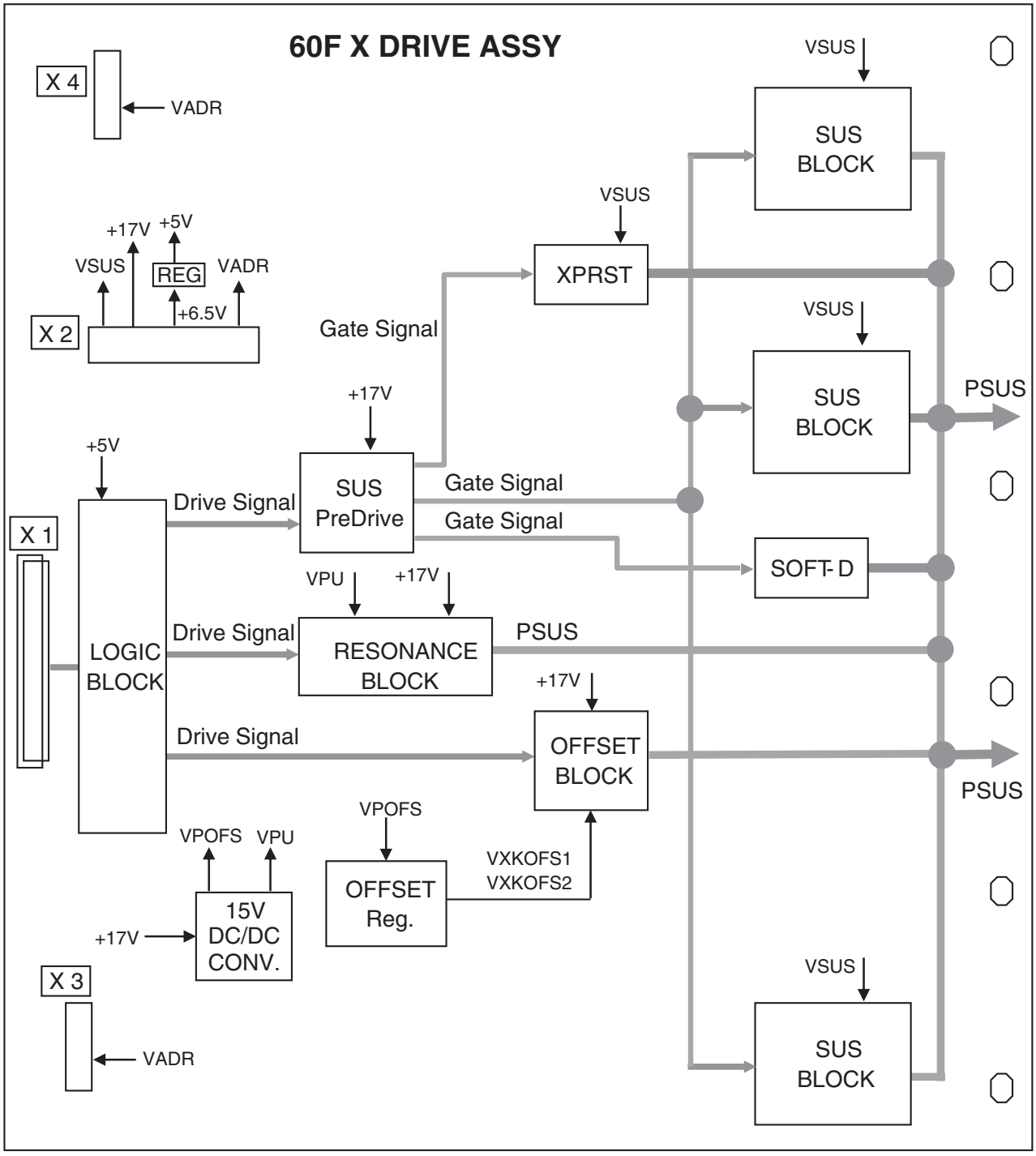

POWER SUPPLY UNIT
AC_DET
M_SW_DET
MAIN UCOM
IC7001
AGC1101 (KRP-600M)
AGC1103 (PRO-141FD)
RXD_MD
TXD_MD
REQ_MD
SDA_E2P
SCL_E2P
IC7002
E2PROM
128K
24LC128(I)S
SCL_VDEC
SDA_VDEC
RST_ASIC
REQ_VDEC
to/from
VDEC
SCL_HDMI
SDA_HDMI
to/from
HDMI Rx
INT_HDMI
SCDT_HDMI
RST_HDMI
IC7202
SCL_IO1
SDA_IO1
Ext.Port IC
M62320GP
IC7203
SCL_IO2
SDA_IO2
Ext.Port IC
M62320GP
SCL_AU
SDA_AU
to/from VOL CTL
LC75411WS (IC3101)
CSN/CCLK
CDT1/HDMI_DAPD
to
D/A(AK4384ET)
RXD_ARIA/TXD_ARIA/REQ_ARIA/BUSY_ARIA
IC6501
PD6568
ARIA
TXD_232C_ARIA
RXD_232C_ARIA
to/from
LOGIC IC
TC74VHC126FTS1
(IC7201)
DDR_A
IC6701
EDD1232ABBH
TXD_232C_MD
RXD_232C_MD
to/from
LOGIC IC
TC74VHC126FTS1
(IC7201)
X7001
10.175MHz
X'TAL
ASS1227
DDR_B
IC6702
EDD1232ABBH
DIN7_R/G/B
DE7
HD7_0/VD7_0/CLK7_0
DDR_C
IC6703
EDD1232ABBH
AGC1100 (KRP-600M)
AGC1099 (PRO-141FD)
RST_ASIC
REQ_PEAK_M/REQ_PEAK_S
HOLD_PLL
VD_VDEC
HOLD_PLL
CLP_AD
HOLD
CLAMP
SCL_2240
SDA_2240
RST_AD
SCL_AD
SDA_AD
INT_HD/INT_VD
HSYNCSEP_I/VSYNCSEP_I
HSYNCDIR_I/VSYNCDIR_I
IC4601
SYNC Sep.
BA7078
HD/VD
PC_HD/PC_VD
Frequency
measurement
reshaping
HOLD
CLAMP
VD
PLL_H
IC6704
16Mbit
FLASH
RESET_ASIC
from
MAIN UCOM
LPF
Circuit
480i/p
(CS)
480I_ON
480p_ON
from
MAIN UCOM
HD/VD(Sepa.)
RST_ASIC
to VDEC
27MHz
X'TAL
X6501
ASS1225
PCHD(CS)
PCVD for
freq. counter
SOG(6dB)
ATT
HOLD_PLL (NO USE)
CLP_AD (NO USE)
RGB SW
IC4701
CXA2240AR
SOG(0dB)
B_AD/G_AD/R_AD
(Y-DET)
A/D
IC5001
THC7980-17
DIN1_R/G/B
CLK1/HD1/VD1
IC5002
TC74VHC153FT
SW
H
V
HOLD_PLL
HOLD_PLL
HD_PLL
HD_PLL
RA_0/RB_0/GA_0/GB_0
BA_0/BB_0
HD_0/VD_0/DE_0/CLK_0
THEATER
ARIA_OE
to
DIGITAL
ASSY
ADSYNC_1
ADSYNC_2
to/from
MAIN UCOM
RST_ASIC
REQ_VDEC
SCL_VDEC
SDA_VDEC
CVBS
VDEC
IC4801
CM0048BF
DIN2_656DATA
HD2/VD2/DE2/CLK2
DSUBHD(CS), DSUBVD for AD
X4801
23.636MHz
X'TAL
ASS1214
IC4802
64M
SDRAM
HY57V641620FTP

4.5 POWER SUPPLY UNIT

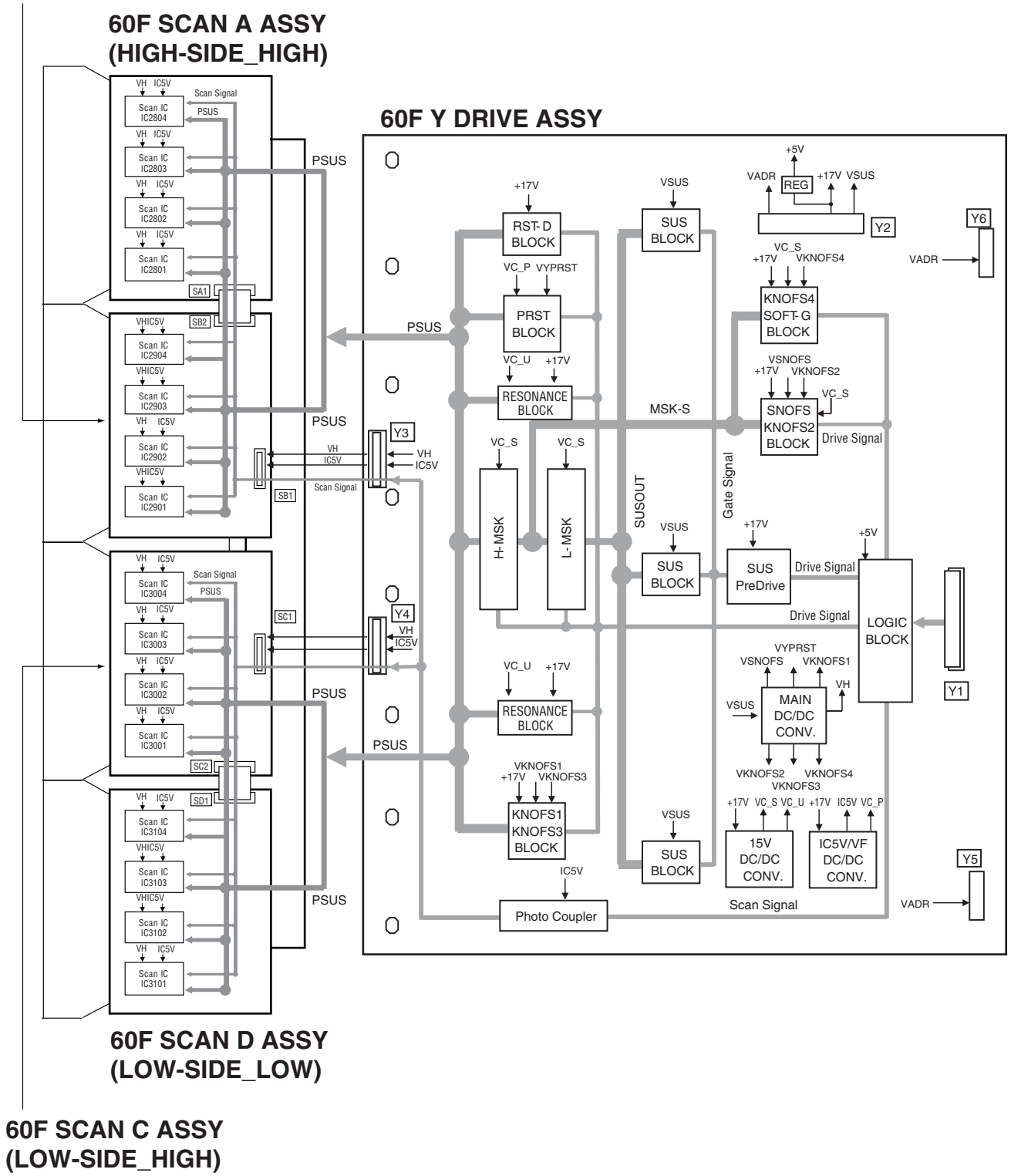



POWER SUPPLY UNIT
<PKG1>
P14
+390V
PFC
BLOCK
RELAY
NEUTRAL
LIVE
FUSE
P3
P16
P13
P8

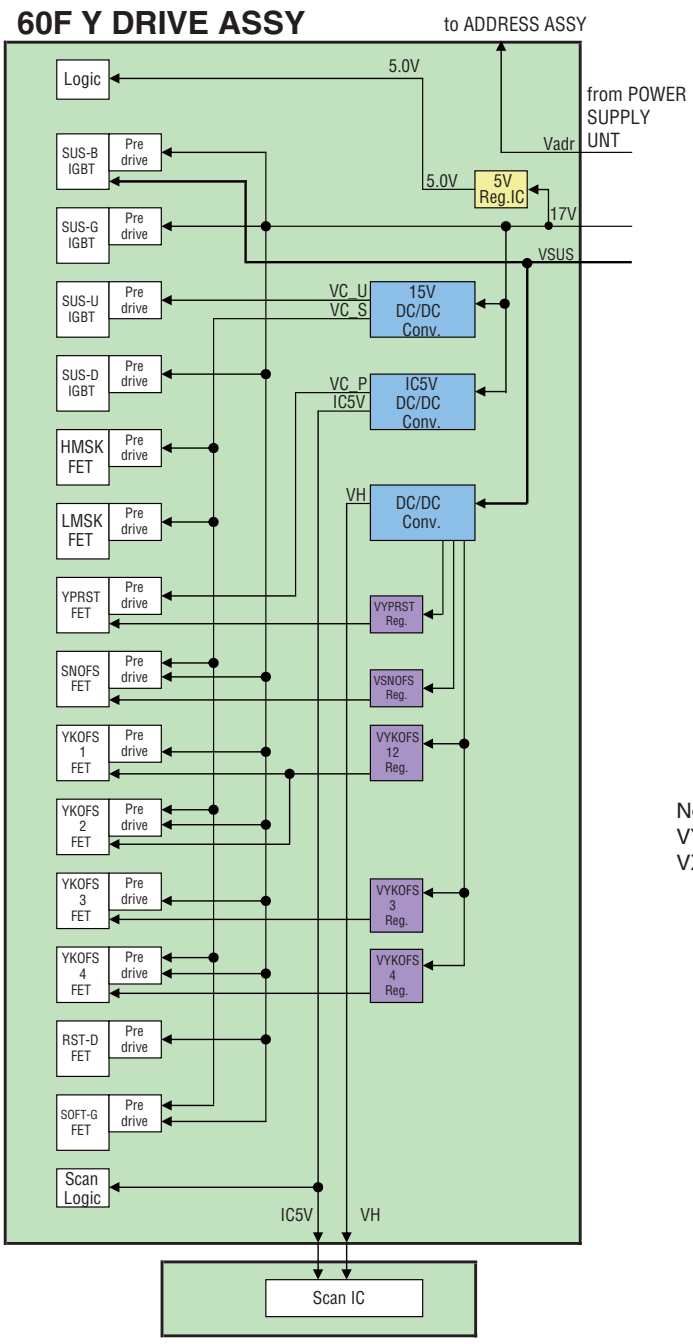
4.6 60F X DRIVE ASSY



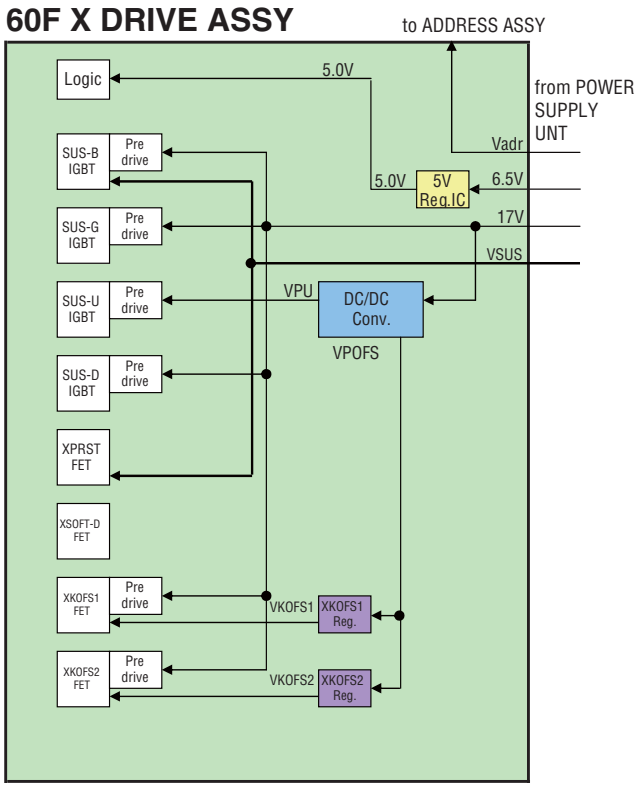
4.7 60F Y DRIVE, 60F SCAN A, B, C and D ASSYS



4.8 POWER SUPPLY BLOCK of 60F X, Y DRIVE and 60F SCAN A, B, C and D ASSYS



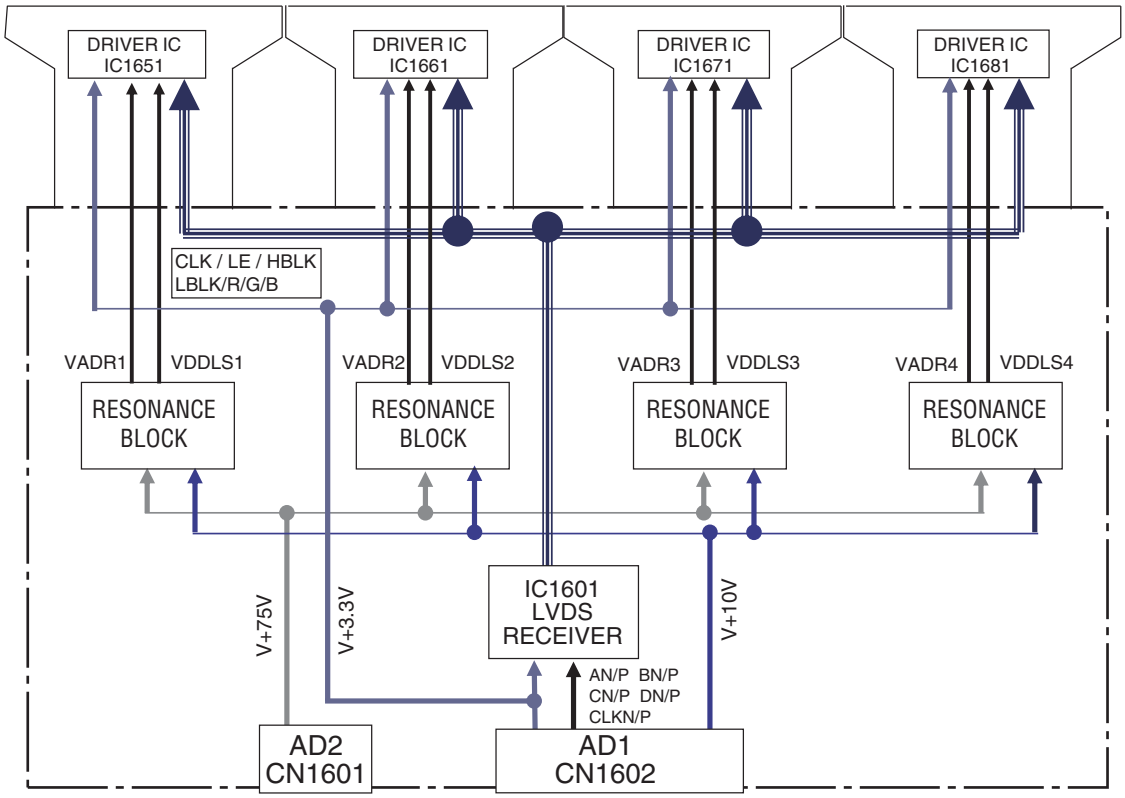
60F SCAN A, B, C and D ASSYS



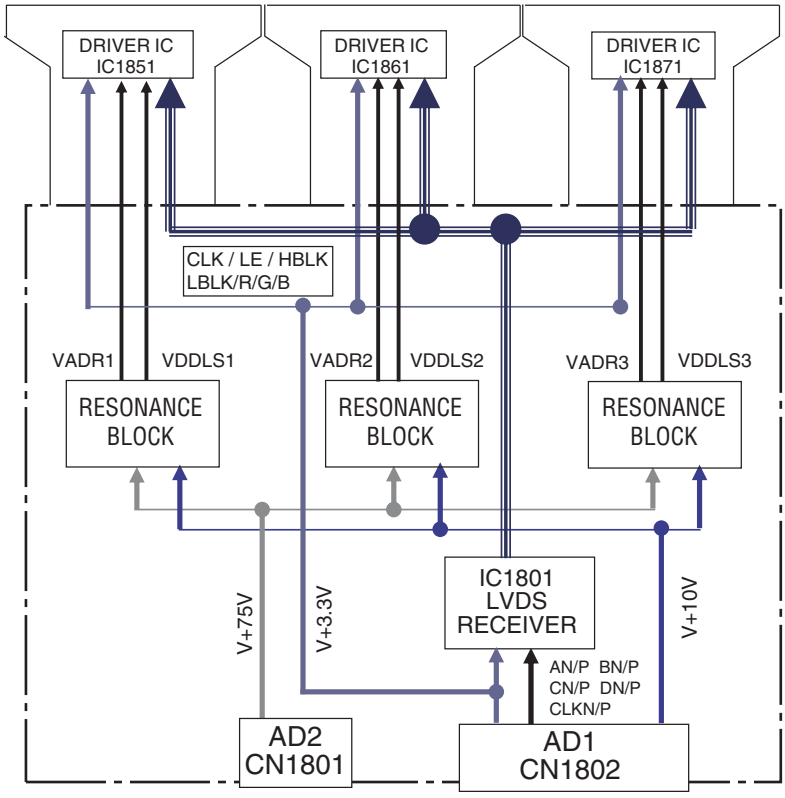
Note:
VYPRST, VSNOFS, VYKOFS12, VYKOFS3, VYKOFS4
VXKOFS1 and VXKOFS2 voltages are electrical volume controls.

4.9 60F ADDRESS L and S ASSYS

60F ADDRESS L ASSY

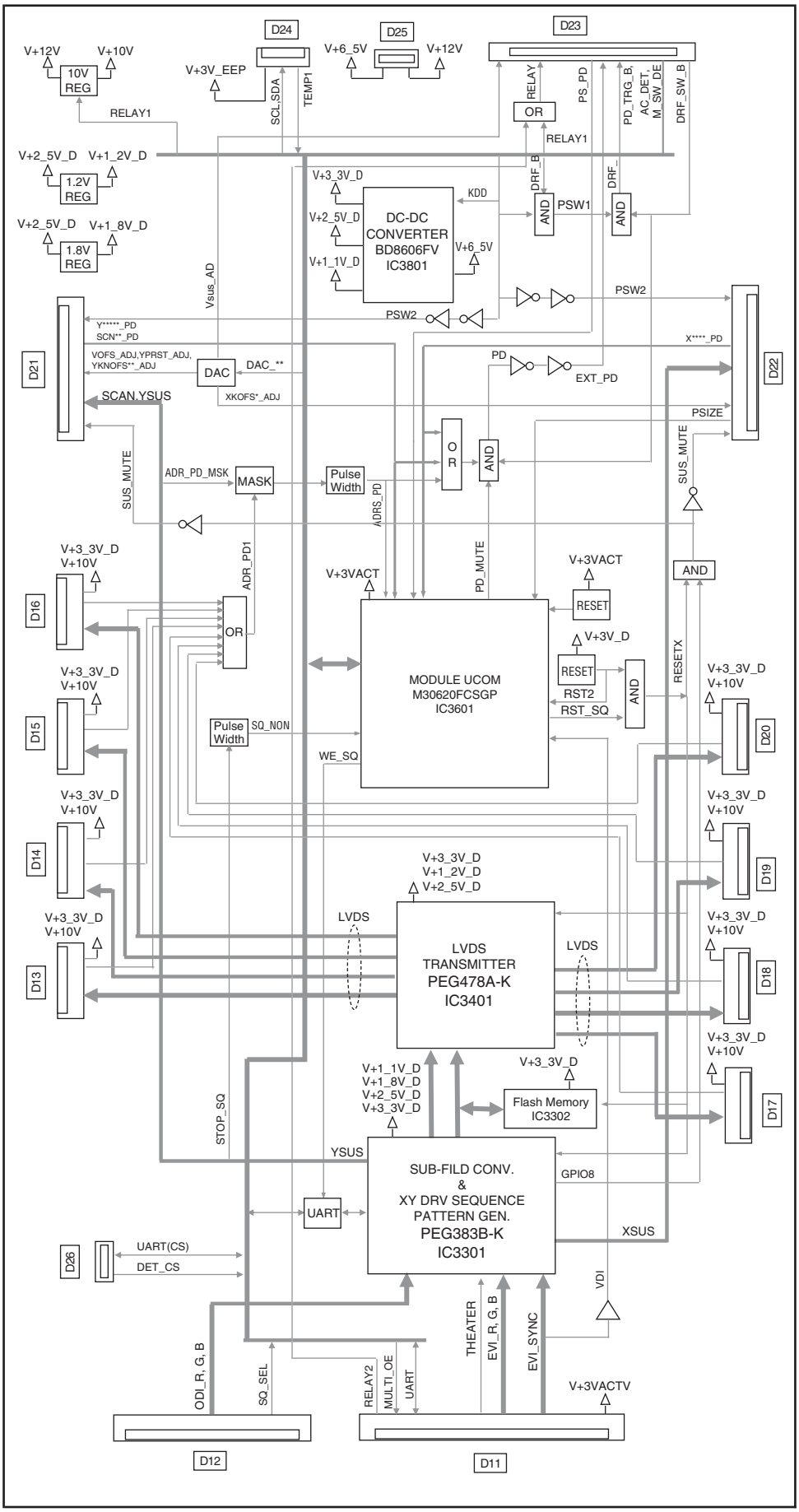


60F ADDRESS S ASSY



4.10 60F DIGITAL ASSY

60F DIGITAL ASSY



A

B

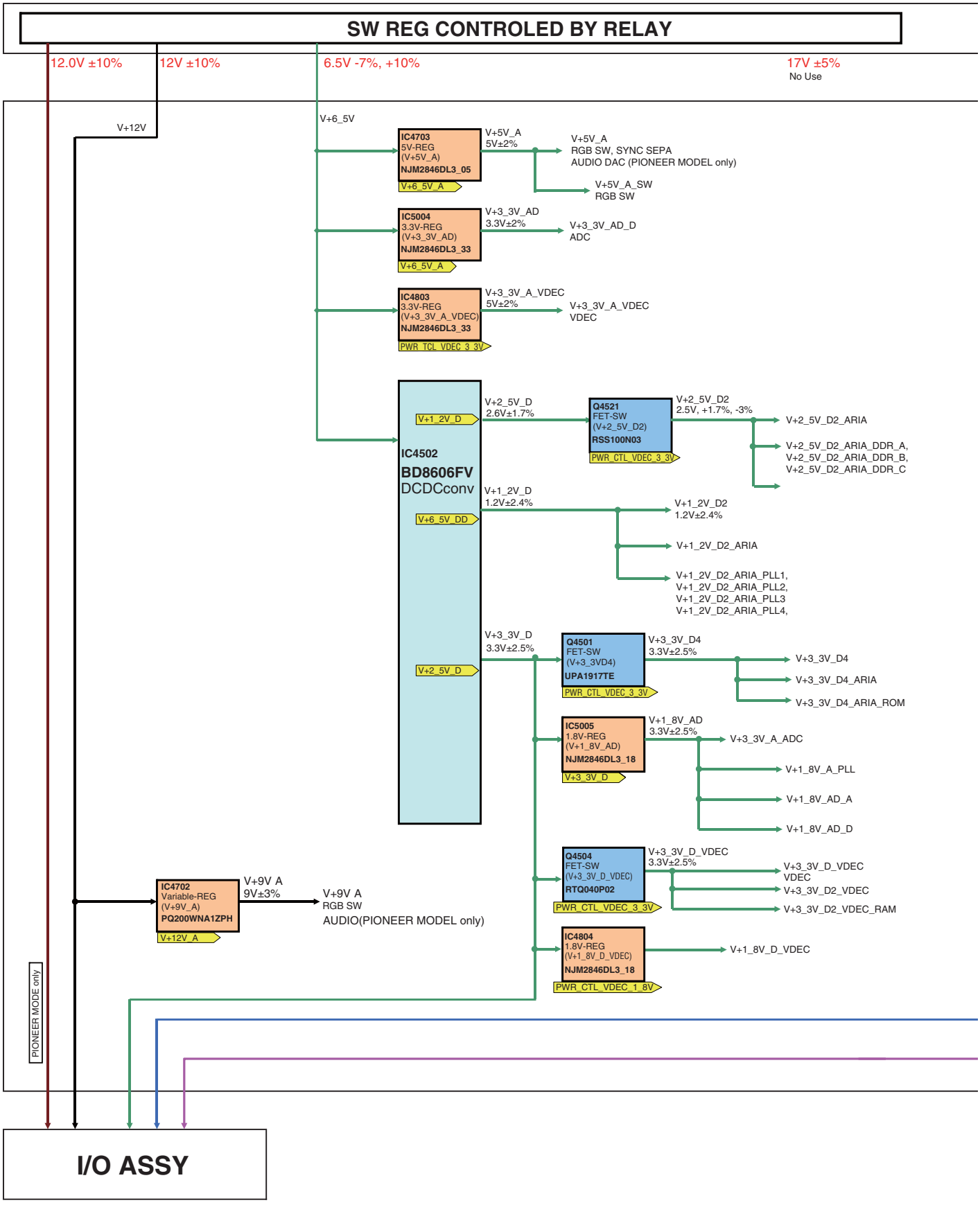
C

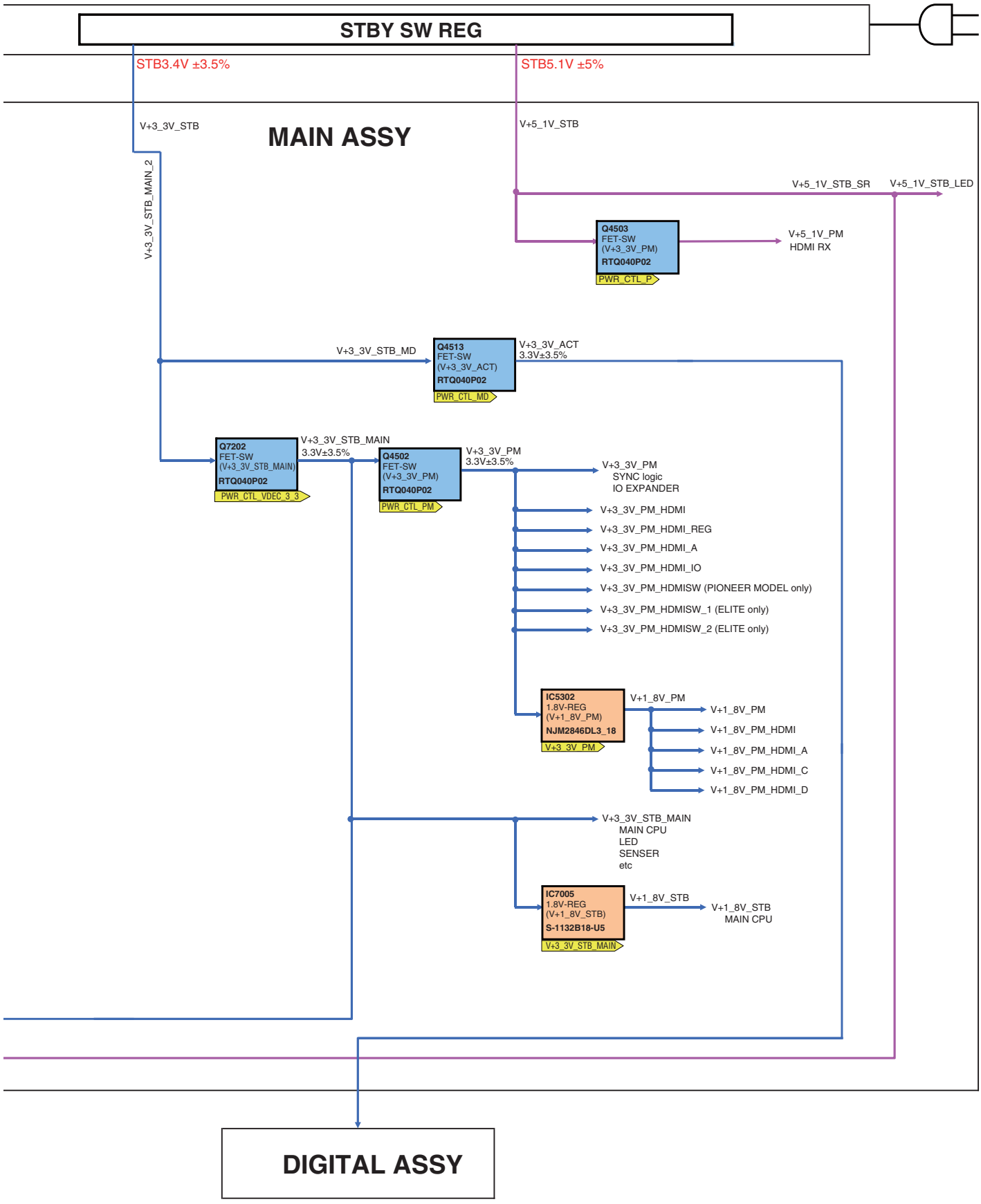
D

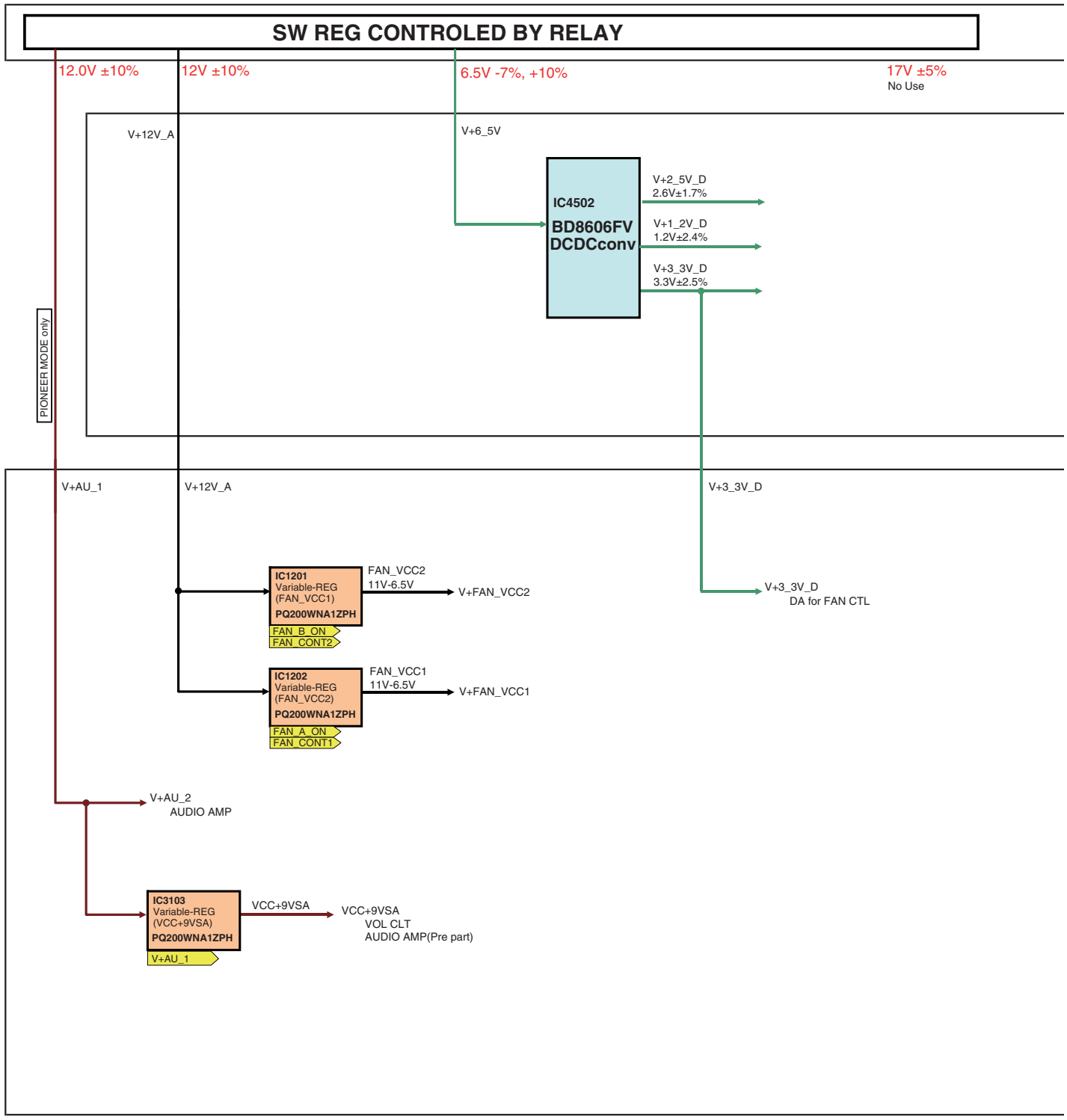
E

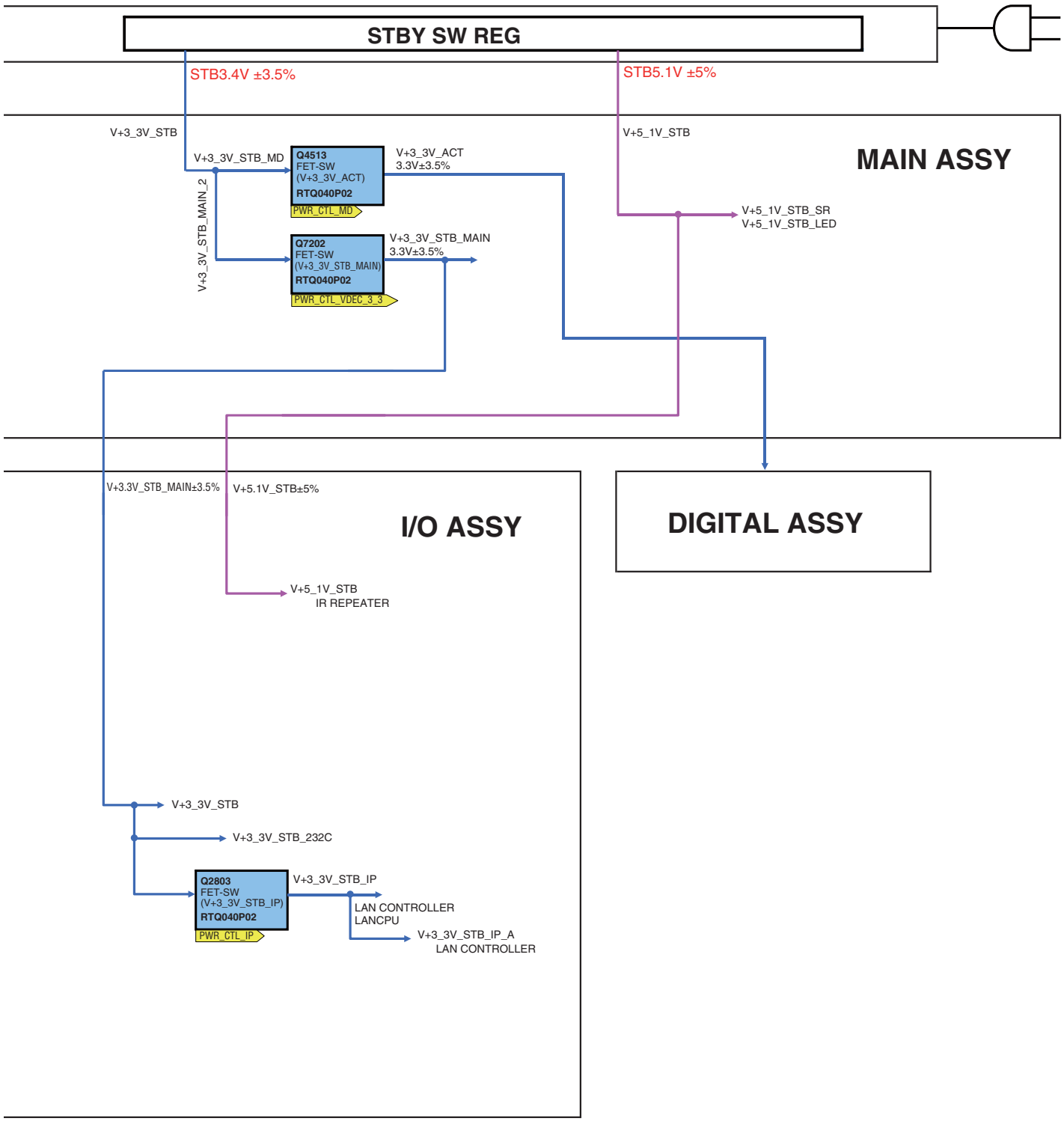
F

4.11 POWER SUPPLYBLOCK of MAIN and I/O ASSYS

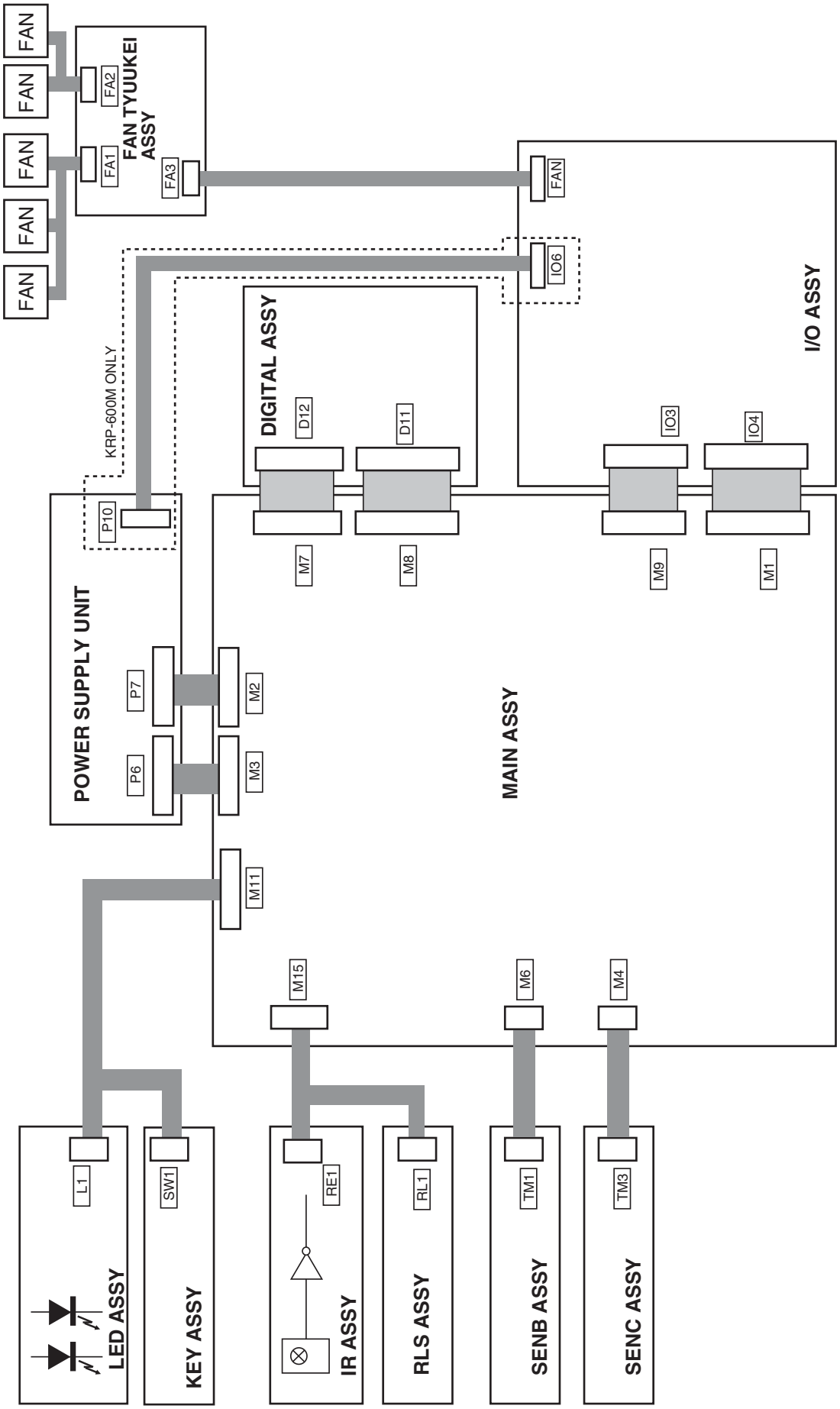



STBY SW REG
STB3.4V ±3.5%
STB5.1V ±5%
MAIN ASSY
V+3_3V_STB
V+5_1V_STB
V+3_3V_STB_MAIN_2
V+5_1V_STB_SR
V+5_1V_STB_LED
Q4503
FET-SW
(V+3_3V_PM)
RTQ040P02
PWR_CTL_P
V+5_1V_PM
HDMI RX
V+3_3V_STB_MD
Q4513
FET-SW
(V+3_3V_ACT)
RTQ040P02
PWR_CTL_MD
V+3_3V_ACT
3.3V±3.5%
Q7202
FET-SW
(V+3_3V_STB_MAIN)
RTQ040P02
PWR_CTL_VDEC_3_3
V+3_3V_STB_MAIN
3.3V±3.5%
Q4502
FET-SW
(V+3_3V_PM)
RTQ040P02
PWR_CTL_PM
V+3_3V_PM
3.3V±3.5%
V+3_3V_PM
SYNC logic
IO EXPANDER
V+3_3V_PM_HDMI
V+3_3V_PM_HDMI_REG
V+3_3V_PM_HDMI_A
V+3_3V_PM_HDMI_IO
V+3_3V_PM_HDMISW (PIONEER MODEL only)
V+3_3V_PM_HDMISW_1 (ELITE only)
V+3_3V_PM_HDMISW_2 (ELITE only)
IC5302
1.8V-REG
(V+1_8V_PM)
NJM2846DL3_18
V+3_3V_PM
V+1_8V_PM
V+1_8V_PM
V+1_8V_PM_HDMI
V+1_8V_PM_HDMI_A
V+1_8V_PM_HDMI_C
V+1_8V_PM_HDMI_D
V+3_3V_STB_MAIN
MAIN CPU
LED
SENSER
etc
IC7005
1.8V-REG
(V+1_8V_STB)
S-1132B18-U5
V+3_3V_STB_MAIN
V+1_8V_STB
V+1_8V_STB
MAIN CPU
DIGITAL ASSY


SW REG CONTROLED BY RELAY
12.0V ±10%
12V ±10%
6.5V -7%, +10%
17V ±5%
No Use
V+12V_A
V+6_5V
IC4502
BD8606FV
DCDCconv
V+2_5V_D
2.6V±1.7%
V+1_2V_D
1.2V±2.4%
V+3_3V_D
3.3V±2.5%
PIONEER MODE only
V+AU_1
V+12V_A
V+3_3V_D
IC1201
Variable-REG
(FAN_VCC1)
PQ200WNA1ZPH
FAN_VCC2
11V-6.5V
V+FAN_VCC2
FAN_B_ON
FAN_CONT2
V+3_3V_D
DA for FAN CTL
IC1202
Variable-REG
(FAN_VCC2)
PQ200WNA1ZPH
FAN_VCC1
11V-6.5V
V+FAN_VCC1
FAN_A_ON
FAN_CONT1
V+AU_2
AUDIO AMP
IC3103
Variable-REG
(VCC+9VSA)
PQ200WNA1ZPH
VCC+9VSA
VCC+9VSA
VOL CLT
AUDIO AMP(Pre part)
V+AU_1


STBY SW REG
STB3.4V ±3.5%
STB5.1V ±5%
V+3_3V_STB
V+5_1V_STB
MAIN ASSY
V+3_3V_STB_MD
Q4513
FET-SW
(V+3_3V_ACT)
RTQ040P02
PWR_CTL_MD
V+3_3V_ACT
3.3V±3.5%
V+3_3V_STB_MAIN_2
Q7202
FET-SW
(V+3_3V_STB_MAIN)
RTQ040P02
PWR_CTL_VDEC_3_3
V+3_3V_STB_MAIN
3.3V±3.5%
V+5_1V_STB_SR
V+5_1V_STB_LED
V+3.3V_STB_MAIN±3.5%
V+5.1V_STB±5%
I/O ASSY
DIGITAL ASSY
V+5_1V_STB
IR REPEATER
V+3_3V_STB
V+3_3V_STB_232C
Q2803
FET-SW
(V+3_3V_STB_IP)
RTQ040P02
PWR_CTL_IP
V+3_3V_STB_IP
LAN CONTROLLER
LANCPU
V+3_3V_STB_IP_A
LAN CONTROLLER

4.12 LED and IR ASSYS



A

B

C

D

E

F

5. DIAGNOSIS
5.1 POWER SUPPLY OPERATION

[1] LED DISPLAY INFORMATION

LED Pattern

Status	LED Display Pattern			Remarks
Power OFF (Indicator OFF)	Red and blue LEDs unlit	Red Blue		
Power ON (Indicator ON)	Blue LED lit	Red Blue		
Standby	Red LED lit	Red Blue		
Power Management	The blue LED flashes at intervals of 1000 ms.	Red Blue	1000ms 1000ms	
PD (Power-Down)	The red LED flashes at intervals of 500 ms one to n times *1 then goes dark and remains unlit for 2500 ms.	Red Blue	500ms 500ms (Once) (n times) 2500ms	
SD (ShutDown)	The blue LED flashes at intervals of 500 ms one to n times *2 then goes dark and remains unlit for 2500 ms.	Red Blue	(Once) (n times) 2500ms 500ms 500ms	
No backup copying (panel)	The red LED lights, and the blue LED flashes at intervals of 200 ms.	Red Blue	200ms	
Panel aging in progress (Not for servicing. Only for factory use)	The red and blue LEDs flash alternately at intervals of 300 ms twice then go dark and remain unlit for 900 ms.	Red Blue	300ms 900ms 2500ms (n times) 300ms	Execution of ZAC command
During main micro-computer rewriting (during MAI)	The red and blue LEDs flash alternately at intervals of 100 ms.	Red Blue	100ms 100ms	
During MD micro-computer rewriting (during MOD)	The red and blue LEDs flash alternately at intervals of 100 ms.	Red Blue	100ms 100ms	
During ZEUS rewriting (during PNL)	The red and blue LEDs flash alternately at intervals of 100 ms.	Red Blue	100ms 100ms	
During ARIA rewriting (during WID)	The red and blue LEDs flash alternately at intervals of 100 ms.	Red Blue	100ms 100ms	
During IP micro-computer rewriting	The red and blue LEDs flash alternately at intervals of 100 ms.	Red Blue	100ms 100ms	

*1 Refer to the "5.3 Diagnosis of PD (Power-Down)" sheet for the number of times of flashing during power-down.
*2 Refer to the "5.4 Diagnosis of SD (ShutDown)" sheet for the number of times of flashing during shutdown.

Basic operation

- The priority of LED indication when several abnormalities were detected simultaneously is shown below:
  Priority is given to power-down over shutdown.
  Number of times an LED flashes: Priority is given to a lower over a higher number of times to flash.

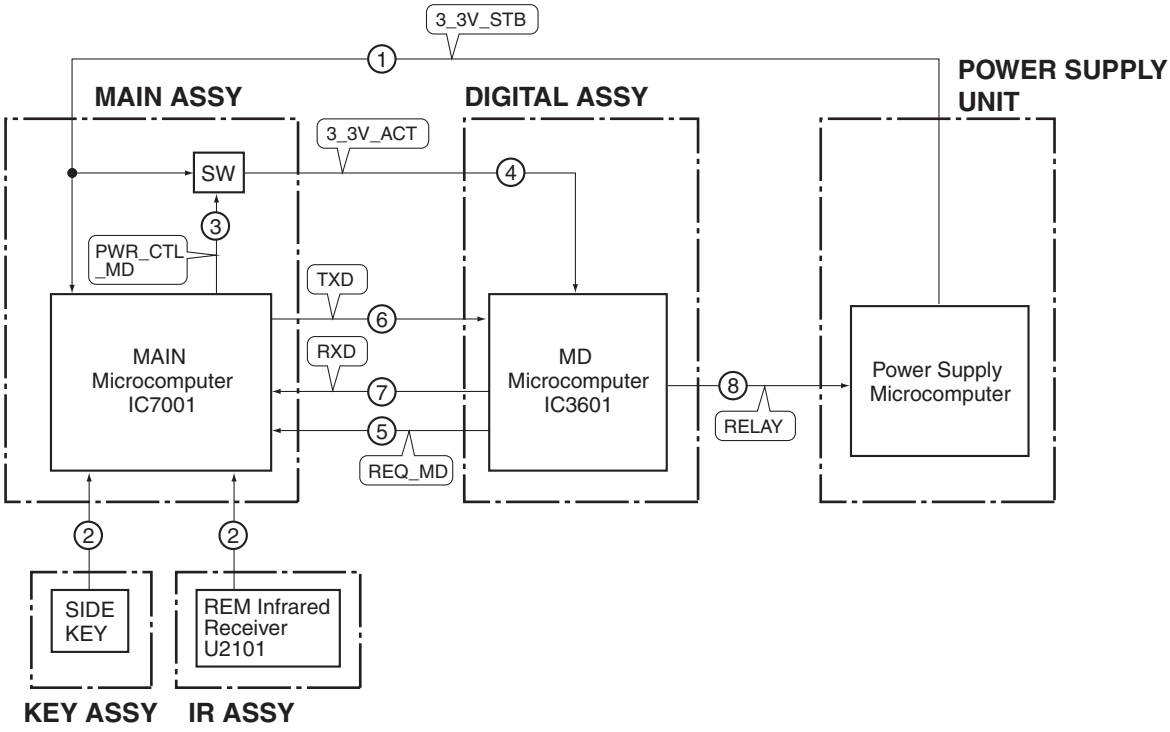
- Timing of writing data on SD or PD on the EEPROM
  Immediately after an abnormality is generated. Only the data on the latest abnormality will be stored (data on the previous abnormality are erased).

- When a power-down or shutdown is invoked, the unit will shut itself off several seconds later.
  If another abnormality is detected during that standby period, priority is given to the process of turning off the unit sooner.

Priority

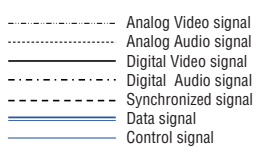
1	PD
2	SD
3	Forcible control of LEDs during FAY
4	Execution of ZAC command
5	No backup copying
6	Rewriting of microcomputer programs
7	Normal operation (ON/STB/sleep, etc.)

[2] POWER ON SEQUENCE

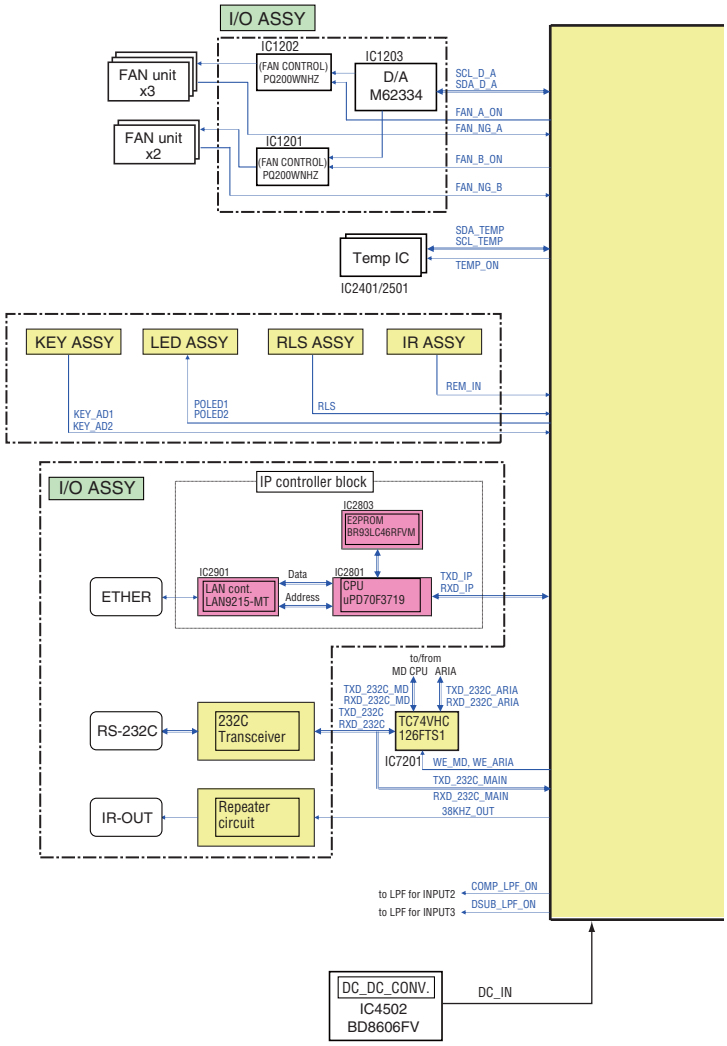


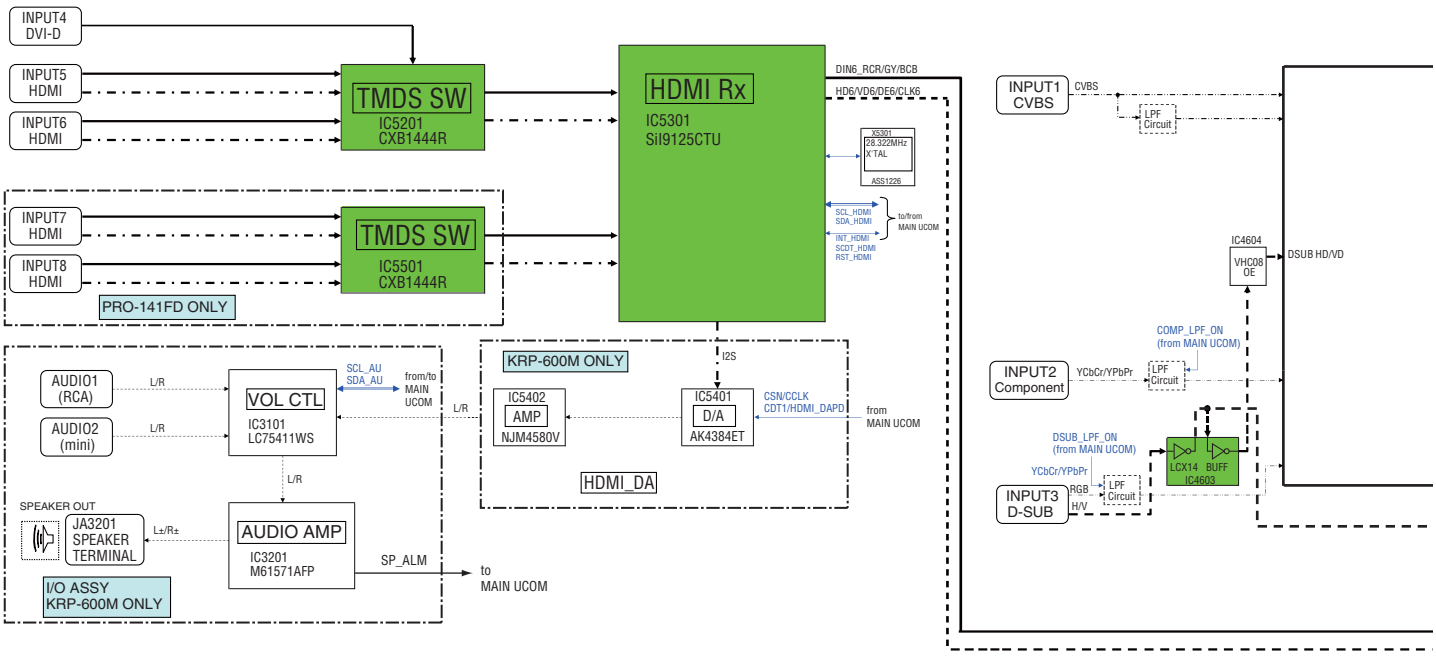
① : When the Main Power Switch of the main unit is set to ON, power of 3_3V_STB is supplied from the power supply unit to the main microcomputer. The main microcomputer starts up.
② : The power-on command is issued from the Power key on the main unit or remote control unit.
③ : The main microcomputer activates the PWR_CTL_MD signal.
④ : Power of 3_3V_ACT is supplied to the MD microcomputer. The MD microcomputer starts up.
⑤ : The MD microcomputer outputs the REQ_MD signal to the main microcomputer (QS2 Data Read command).
⑥ : After confirming the QS2 command (confirmation of SD/PD), the main microcomputer outputs the PON command.
⑦ : The MD microcomputer sends a PON echo back to the main microcomputer.
⑧ : The MD microcomputer outputs the RELAY signal to start supplying power.

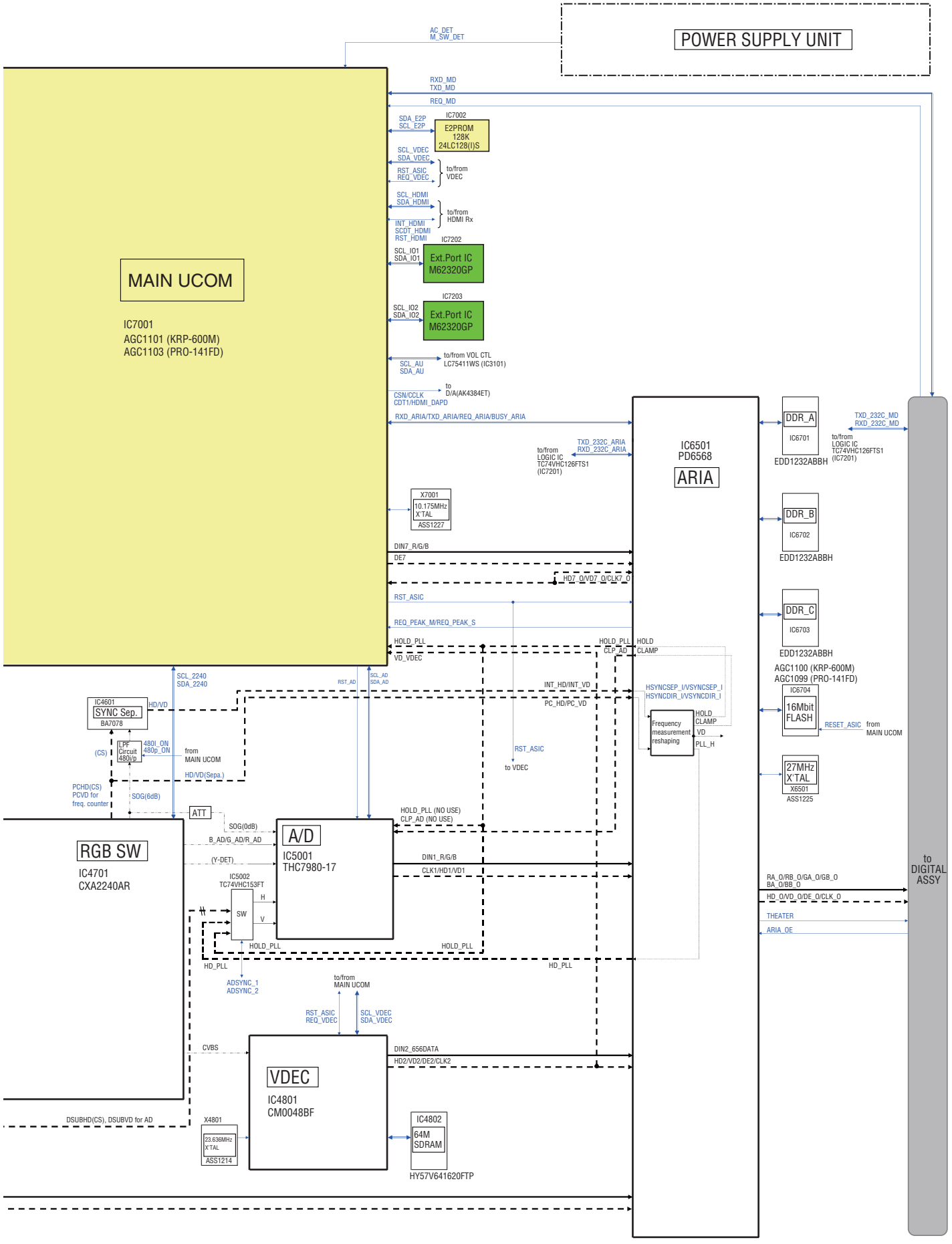
[3] DETAILS OF POWER ON STATE



Operation status (with the Main power ON)	Powered-on blocks
Power to the panel of the PDP ON	Power to all blocks ON (excl. the IP control block)
Power management status	Power to the ☐ and ☐ blocks ON
Standby mode	Power to only the ☐ block ON
The power to the IP control block (☐) is controlled by the IP CONTROL setting (Disable/Enable,) regardless of the operation statuses shown above.	



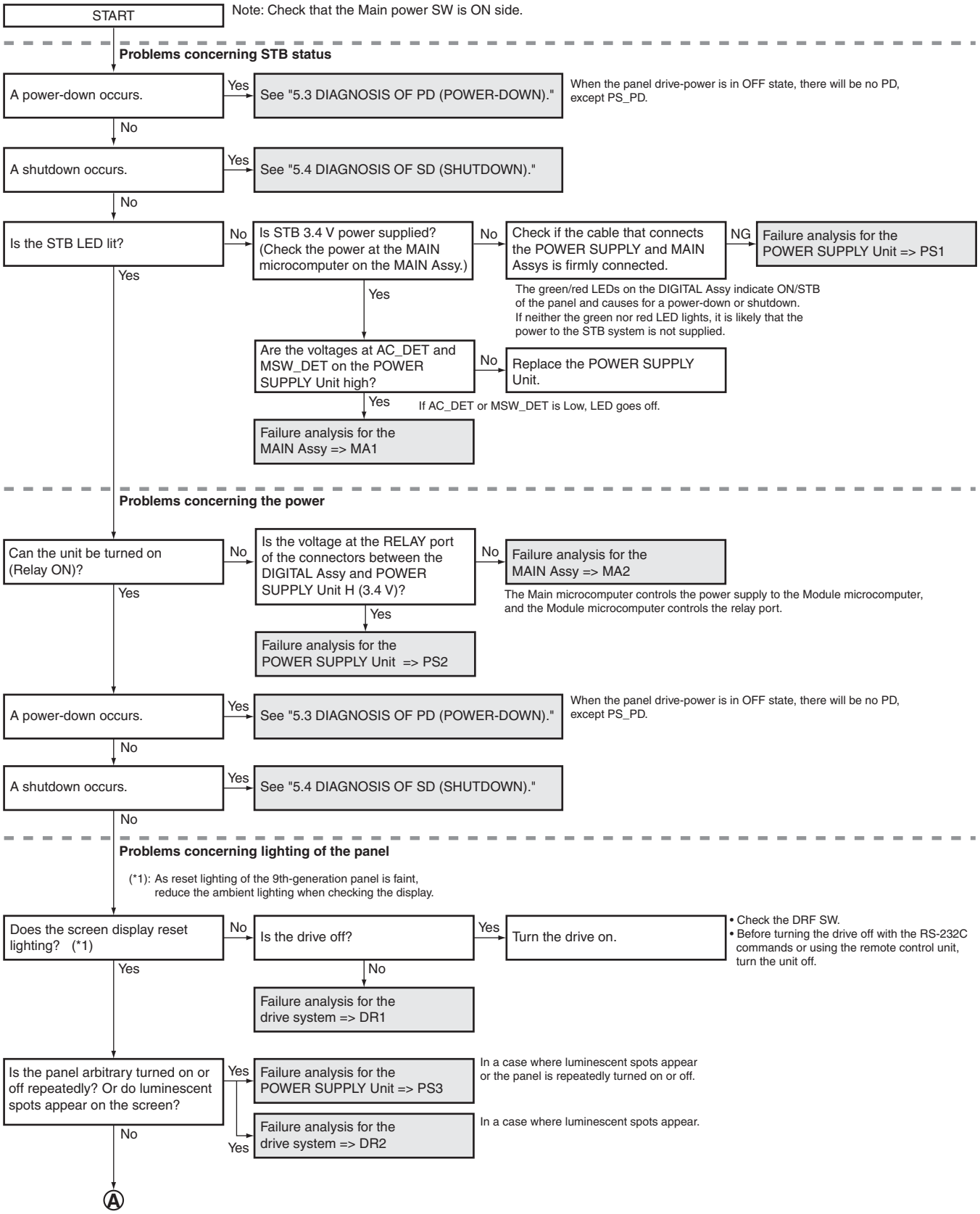


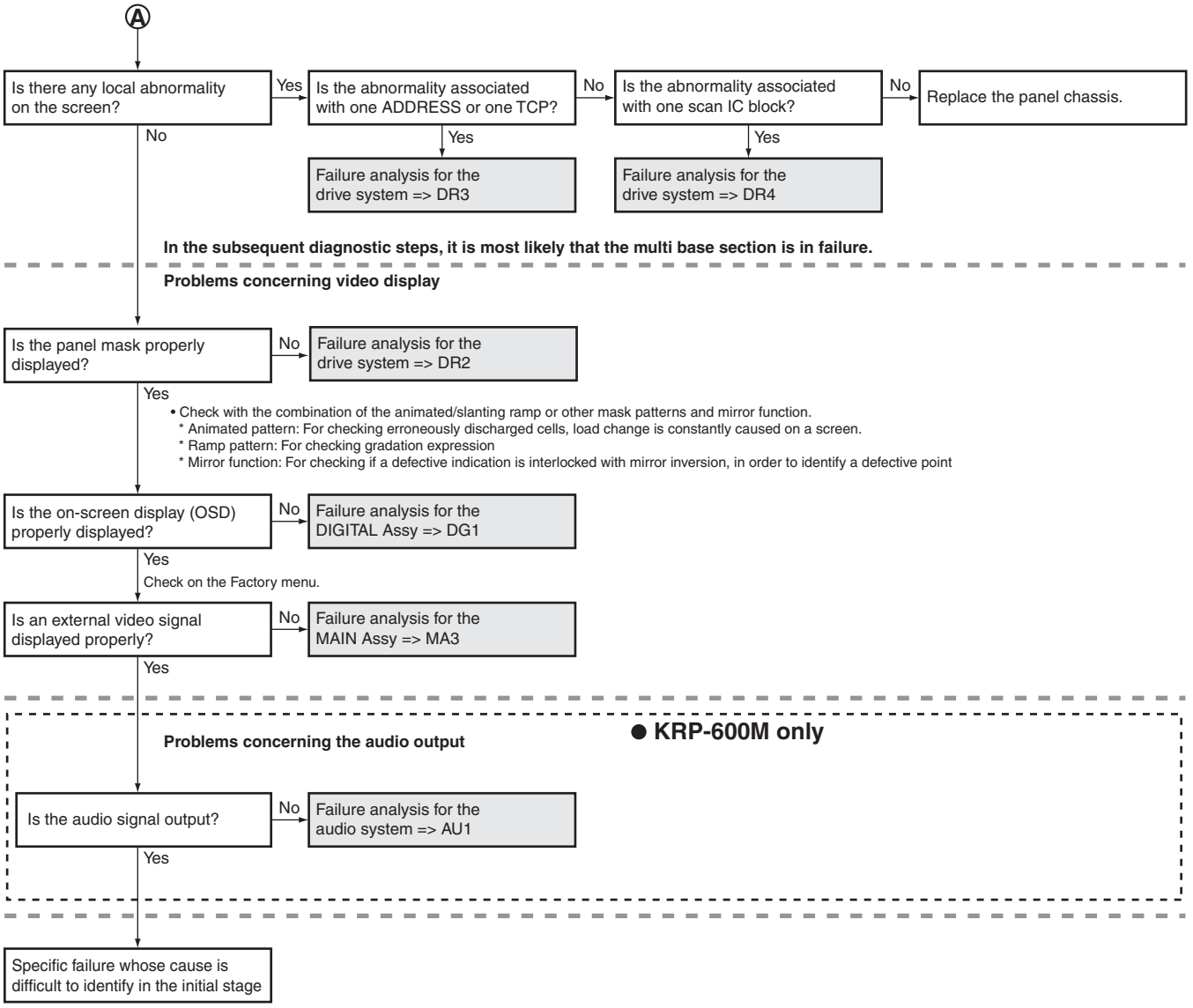

POWER SUPPLY UNIT
AC_DET
M_SW_DET
MAIN UCOM
IC7001
AGC1101 (KRP-600M)
AGC1103 (PRO-141FD)
RXD_MD
TXD_MD
REQ_MD
SDA_E2P
SCL_E2P
IC7002
E2PROM
128K
24LC128(I)S
SCL_VDEC
SDA_VDEC
RST_ASIC
REQ_VDEC
to/from
VDEC
SCL_HDMI
SDA_HDMI
to/from
HDMI Rx
INT_HDMI
SCDT_HDMI
RST_HDMI
IC7202
SCL_IO1
SDA_IO1
Ext.Port IC
M62320GP
IC7203
SCL_IO2
SDA_IO2
Ext.Port IC
M62320GP
SCL_AU
SDA_AU
to/from VOL CTL
LC75411WS (IC3101)
CSN/CCLK
CDT1/HDMI_DAPD
to
D/A(AK4384ET)
RXD_ARIA/TXD_ARIA/REQ_ARIA/BUSY_ARIA
IC6501
PD6568
ARIA
TXD_232C_ARIA
RXD_232C_ARIA
to/from
LOGIC IC
TC74VHC126FTS1
(IC7201)
DDR_A
IC6701
EDD1232ABBH
TXD_232C_MD
RXD_232C_MD
to/from
LOGIC IC
TC74VHC126FTS1
(IC7201)
X7001
10.175MHz
X'TAL
ASS1227
DDR_B
IC6702
EDD1232ABBH
DIN7_R/G/B
DE7
HD7_O/VD7_O/CLK7_O
RST_ASIC
REQ_PEAK_M/REQ_PEAK_S
DDR_C
IC6703
EDD1232ABBH
AGC1100 (KRP-600M)
AGC1099 (PRO-141FD)
HOLD_PLL
VD_VDEC
HOLD_PLL
CLP_AD
HOLD
CLAMP
SCL_2240
SDA_2240
RST_AD
SCL_AD
SDA_AD
INT_HD/INT_VD
PC_HD/PC_VD
HSYNCSEP_I/VSYNCSEP_I
HSYNCDIR_I/VSYNCDIR_I
IC4601
SYNC Sep.
BA7078
HD/VD
LPF
Circuit
480i/p
480I_ON
480p_ON
from
MAIN UCOM
(CS)
HD/VD(Sepa.)
Frequency
measurement
reshaping
HOLD
CLAMP
VD
PLL_H
RST_ASIC
to VDEC
IC6704
16Mbit
FLASH
RESET_ASIC
from
MAIN UCOM
27MHz
X'TAL
X6501
ASS1225
PCHD(CS)
PCVD for
freq. counter
SOG(6dB)
ATT
SOG(0dB)
B_AD/G_AD/R_AD
(Y-DET)
A/D
IC5001
THC7980-17
HOLD_PLL (NO USE)
CLP_AD (NO USE)
DIN1_R/G/B
CLK1/HD1/VD1
RGB SW
IC4701
CXA2240AR
IC5002
TC74VHC153FT
SW
H
V
HOLD_PLL
HOLD_PLL
HD_PLL
HD_PLL
RA_O/RB_O/GA_O/GB_O
BA_O/BB_O
HD_O/VD_O/DE_O/CLK_O
THEATER
ARIA_OE
to
DIGITAL
ASSY
ADSYNC_1
ADSYNC_2
to/from
MAIN UCOM
RST_ASIC
REQ_VDEC
SCL_VDEC
SDA_VDEC
CVBS
VDEC
IC4801
CM0048BF
DIN2_656DATA
HD2/VD2/DE2/CLK2
DSUBHD(CS), DSUBVD for AD
X4801
23.636MHz
X'TAL
ASS1214
IC4802
64M
SDRAM
HY57V641620FTP

5.2 DIAGNOSIS FLOWCHART OF FAILURE ANALYSIS

[1] WHOLE UNIT

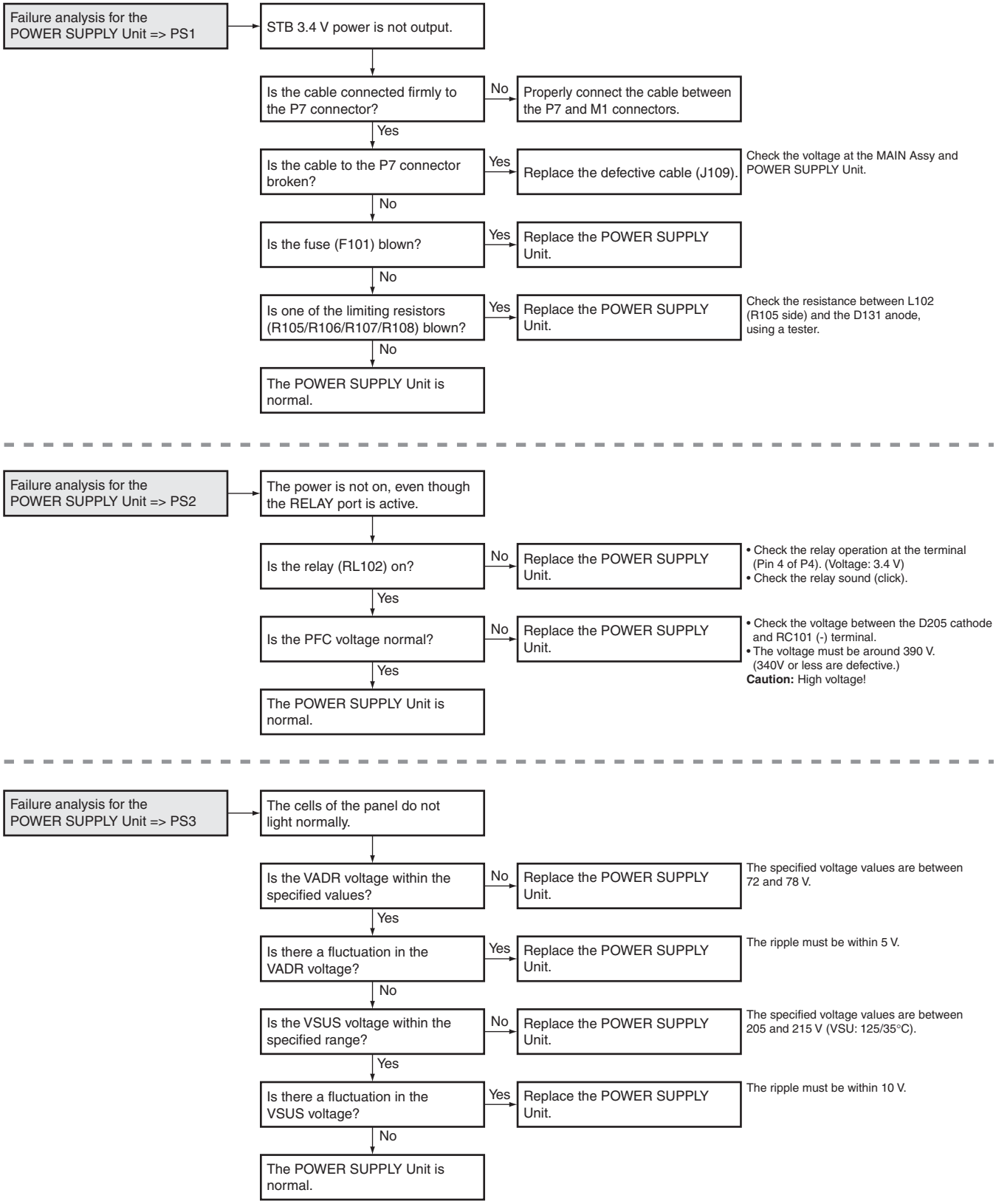
Flowchart of Failure Analysis for The Whole Unit




Ⓐ
Is there any local abnormality on the screen?
Yes
Is the abnormality associated with one ADDRESS or one TCP?
No
Is the abnormality associated with one scan IC block?
No
Replace the panel chassis.
Yes
Failure analysis for the drive system => DR3
Yes
Failure analysis for the drive system => DR4
No
In the subsequent diagnostic steps, it is most likely that the multi base section is in failure.
Problems concerning video display
Is the panel mask properly displayed?
No
Failure analysis for the drive system => DR2
Yes
• Check with the combination of the animated/slanting ramp or other mask patterns and mirror function.
* Animated pattern: For checking erroneously discharged cells, load change is constantly caused on a screen.
* Ramp pattern: For checking gradation expression
* Mirror function: For checking if a defective indication is interlocked with mirror inversion, in order to identify a defective point
Is the on-screen display (OSD) properly displayed?
No
Failure analysis for the DIGITAL Assy => DG1
Yes
Check on the Factory menu.
Is an external video signal displayed properly?
No
Failure analysis for the MAIN Assy => MA3
Yes
● KRP-600M only
Problems concerning the audio output
Is the audio signal output?
No
Failure analysis for the audio system => AU1
Yes
Specific failure whose cause is difficult to identify in the initial stage

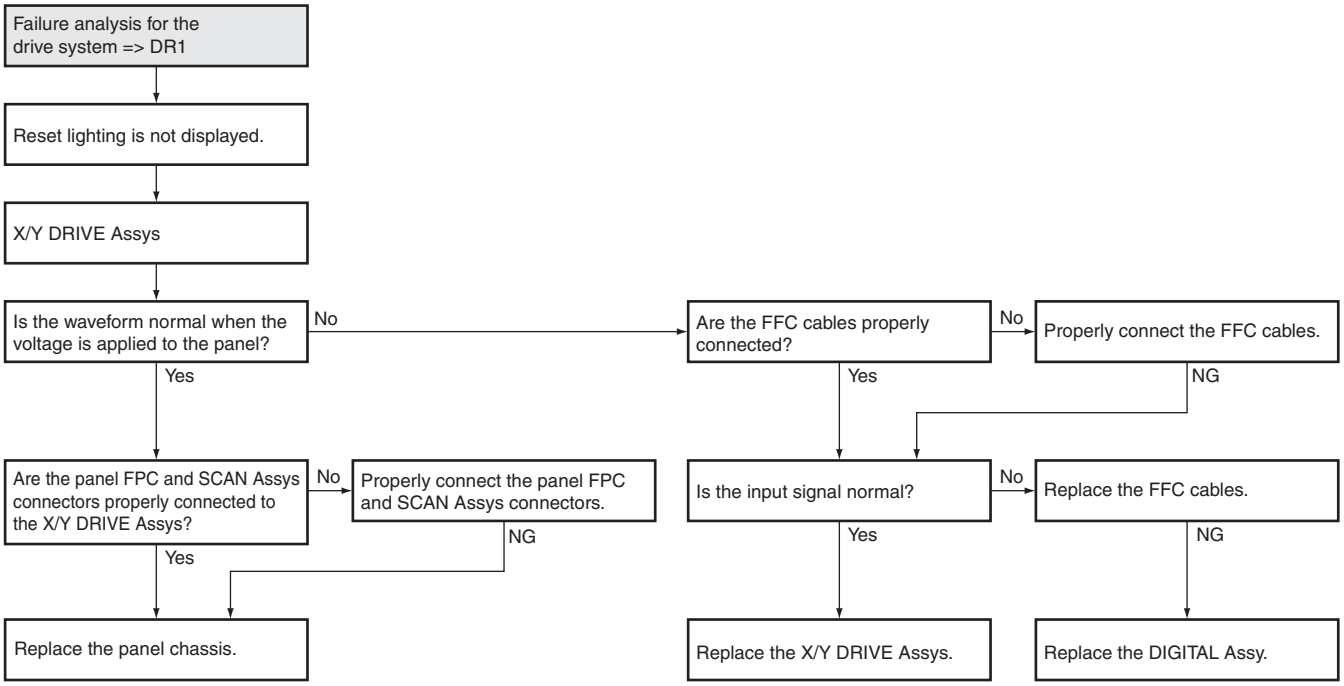
[2] POWER SUPPLY UNIT

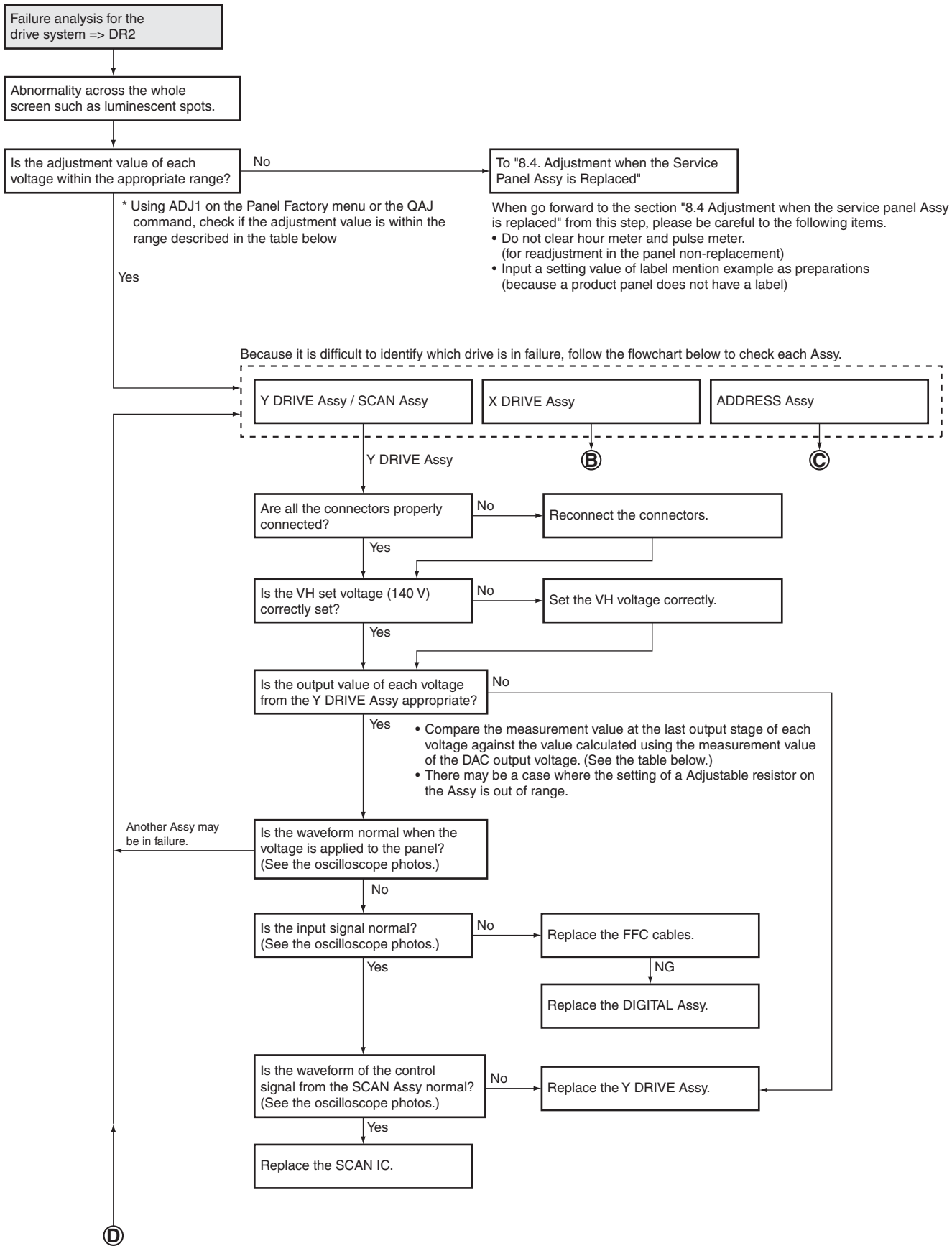
Flowchart of Failure Analysis for The POWER SUPPLY Unit

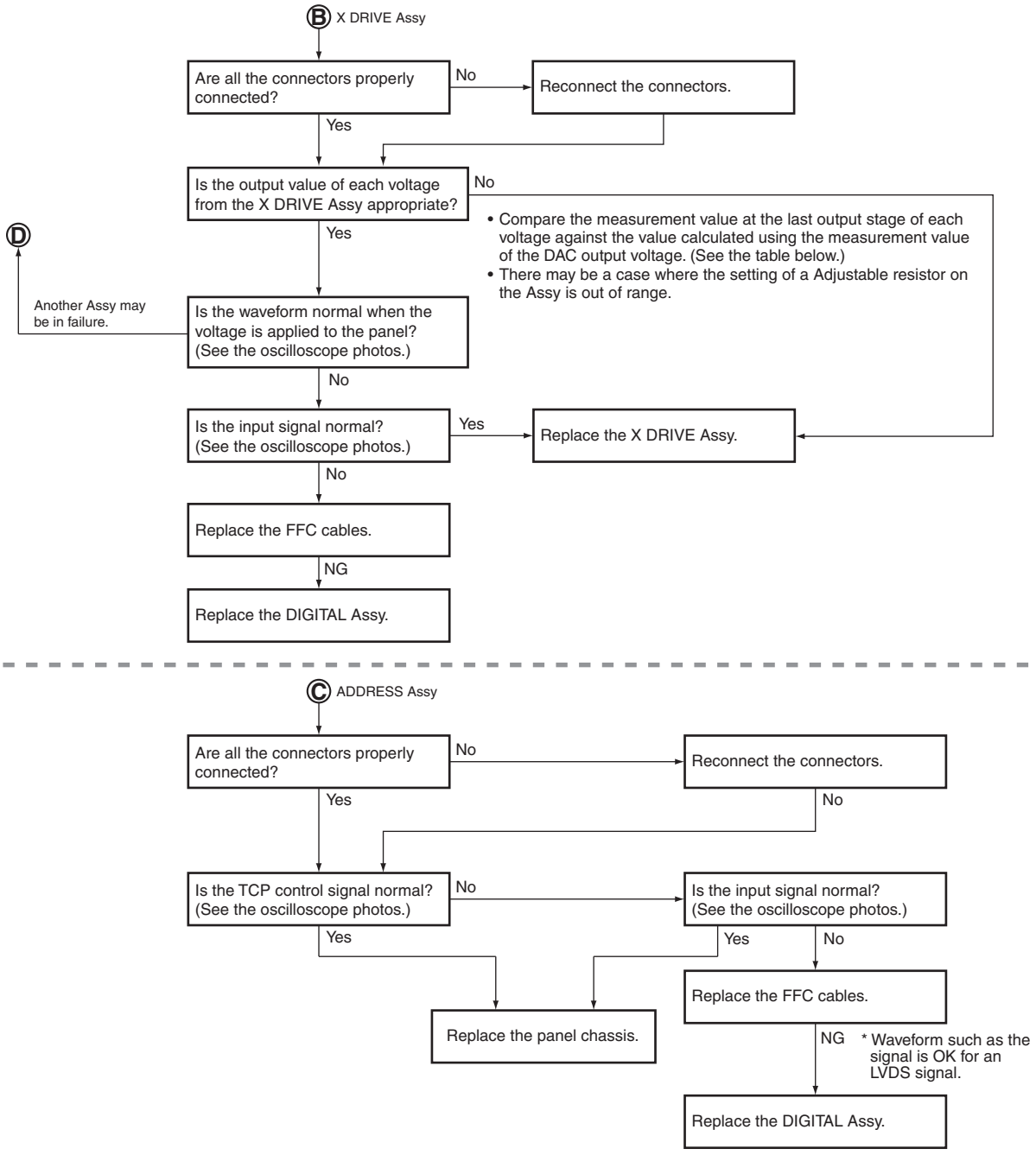


[3] DRIVE ASSY

Flowchart of Failure Analysis for The Drive Assy



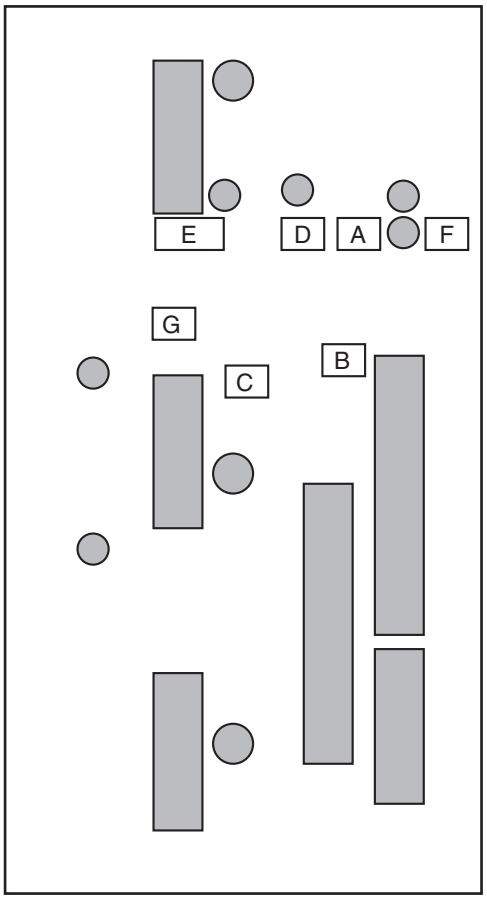

Failure analysis for the drive system => DR2
Abnormality across the whole screen such as luminescent spots.
Is the adjustment value of each voltage within the appropriate range?
No
To "8.4. Adjustment when the Service Panel Assy is Replaced"
* Using ADJ1 on the Panel Factory menu or the QAJ command, check if the adjustment value is within the range described in the table below
When go forward to the section "8.4 Adjustment when the service panel Assy is replaced" from this step, please be careful to the following items.
• Do not clear hour meter and pulse meter. (for readjustment in the panel non-replacement)
• Input a setting value of label mention example as preparations (because a product panel does not have a label)
Yes
Because it is difficult to identify which drive is in failure, follow the flowchart below to check each Assy.
Y DRIVE Assy / SCAN Assy
X DRIVE Assy
ADDRESS Assy
Ⓑ
Ⓒ
Y DRIVE Assy
Are all the connectors properly connected?
No
Reconnect the connectors.
Yes
Is the VH set voltage (140 V) correctly set?
No
Set the VH voltage correctly.
Yes
Is the output value of each voltage from the Y DRIVE Assy appropriate?
No
Yes
• Compare the measurement value at the last output stage of each voltage against the value calculated using the measurement value of the DAC output voltage. (See the table below.)
• There may be a case where the setting of a Adjustable resistor on the Assy is out of range.
Another Assy may be in failure.
Is the waveform normal when the voltage is applied to the panel? (See the oscilloscope photos.)
No
Is the input signal normal? (See the oscilloscope photos.)
No
Replace the FFC cables.
NG
Replace the DIGITAL Assy.
Yes
Is the waveform of the control signal from the SCAN Assy normal? (See the oscilloscope photos.)
No
Replace the Y DRIVE Assy.
Yes
Replace the SCAN IC.
Ⓓ


Ⓑ X DRIVE Assy
Are all the connectors properly connected?
No
Reconnect the connectors.
Yes
Is the output value of each voltage from the X DRIVE Assy appropriate?
No
• Compare the measurement value at the last output stage of each voltage against the value calculated using the measurement value of the DAC output voltage. (See the table below.)
• There may be a case where the setting of a Adjustable resistor on the Assy is out of range.
Yes
Ⓓ
Another Assy may be in failure.
Is the waveform normal when the voltage is applied to the panel? (See the oscilloscope photos.)
No
Is the input signal normal? (See the oscilloscope photos.)
Yes
Replace the X DRIVE Assy.
No
Replace the FFC cables.
NG
Replace the DIGITAL Assy.
Ⓒ ADDRESS Assy
Are all the connectors properly connected?
No
Reconnect the connectors.
Yes
No
Is the TCP control signal normal? (See the oscilloscope photos.)
No
Is the input signal normal? (See the oscilloscope photos.)
Yes
Yes
No
Replace the FFC cables.
Replace the panel chassis.
NG
* Waveform such as the signal is OK for an LVDS signal.
Replace the DIGITAL Assy.

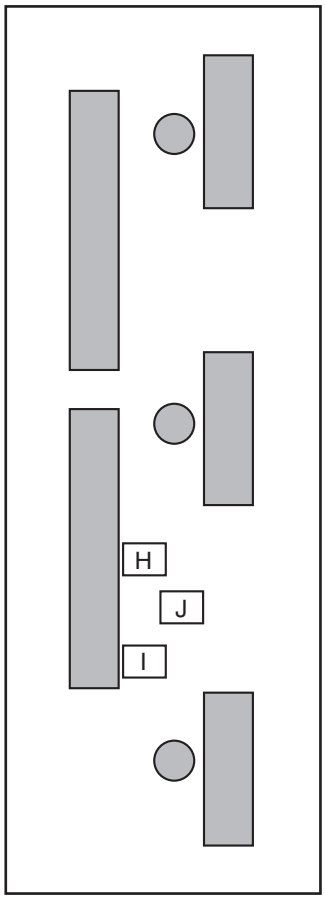
Assy Name	Voltage to be Checked (V)	Adjustable Range		Measurement Point		Computation Formula for Voltage (Absolute Value)	
		60-inch	50-inch	Output at the Last Stage	DAC Output (*2)	Computation Using DAC Output Voltage (V)	Computation Using Adjustment Value (*4)
Y DRIVE Assy	VSNOFS	040 to 085	101 to 157	CN2404 (*1)	Lower side of R2723 (*3)	55.54 - VOFS_ADJ × 13.91	VOF value × 0.18 + 9.6
	VYRST	001 to 056	001 to 074	CN2401 (*1)	Upper side of R2621 (*3)	VYPRST_ADJ × 62.495 + 75.2	VRP value × 0.81 + 74.4
	VKNOFS1_2	054 to 107	121 to 164	CN2405 (*1)	Left side of R2754 (*3)	YVKNOFS1_ADJ × 36.85 + 159.3	(V1F value+VYF value-128) × 0.48 + 158.8
	VKNOFS3	065 to 117	107 to 149	CN2403 (*1)	Right side of R2757 (*3)	YVKNOFS3_ADJ × 36.85 + 159.3	(V3F value+VYF value-128) × 0.48 + 158.8
	VKNOFS4	111 to 164	151 to 193	CN2406 (*1)	Right side of R2755 (*3)	YVKNOFS4_ADJ × 36.85 + 159.3	(V4F value+VYF value-128) × 0.48 + 158.8
X DRIVE Assy	XKOFS1	105	085	CN1302 (*1)	K1402 (*1)	XKNOFS1_ADJ × 27.3 + 30	VX1 value × 0.35 + 29.7
	XKOFS2	063	047	CN1301 (*1)	K1401 (*1)	XKNOFS2_ADJ × 25.0 + 69.8	VX2 value × 0.32 + 69.5

(*1): These parts have not been mounted.
(*2): It is recommended to measure the DAC output voltage with the drive off.
(*3): View when the Assy is mounted on the unit and viewed from the rear.
(*4): The value calculated using an adjustment value may be different from the value measured at the last output stage, because various corrections such as temperature correction are not taken into consideration.

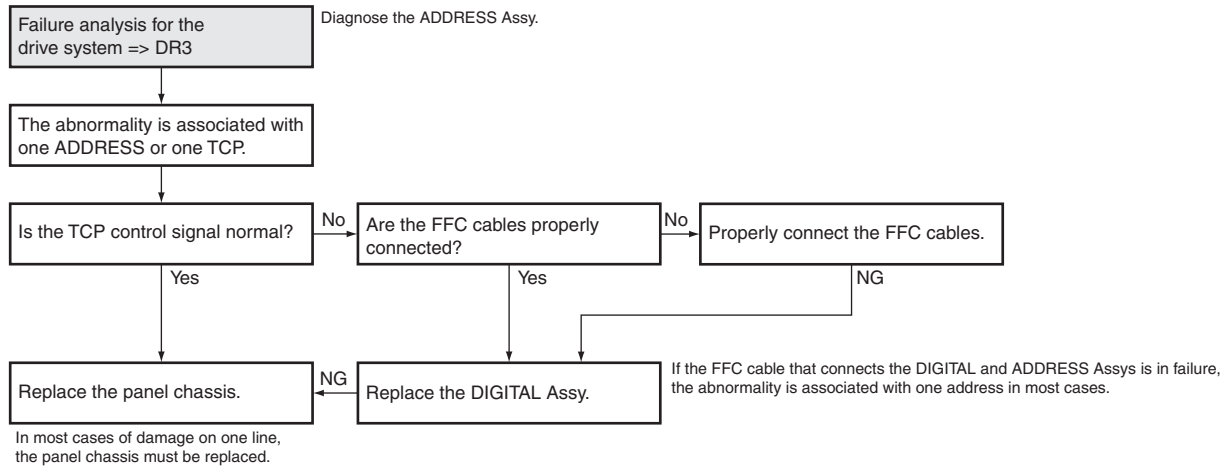
Diagrammatic view of the Y DRIVE Assy

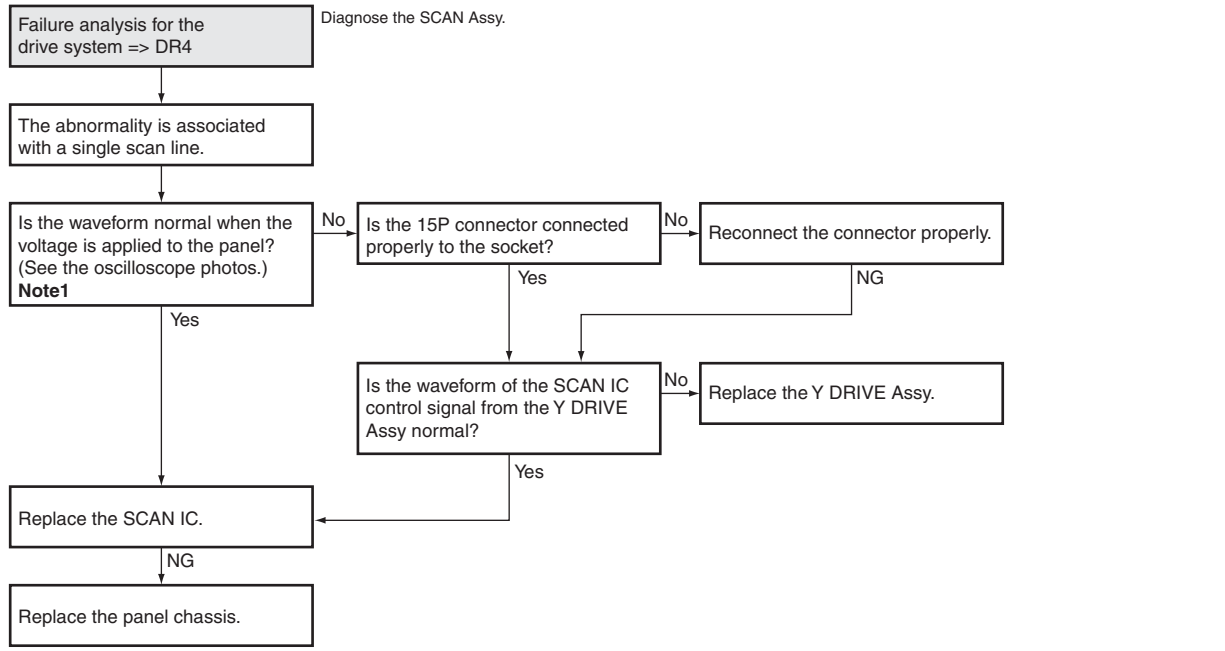


Diagrammatic view of the X DRIVE Assy



A	R2754,R2755,R2757
B	R2723
C	R2621
D	CN2405
E	CN2403,CN2406
F	CN2404
G	CN2401
H	K1401
I	K1402
J	CN1301,CN1302





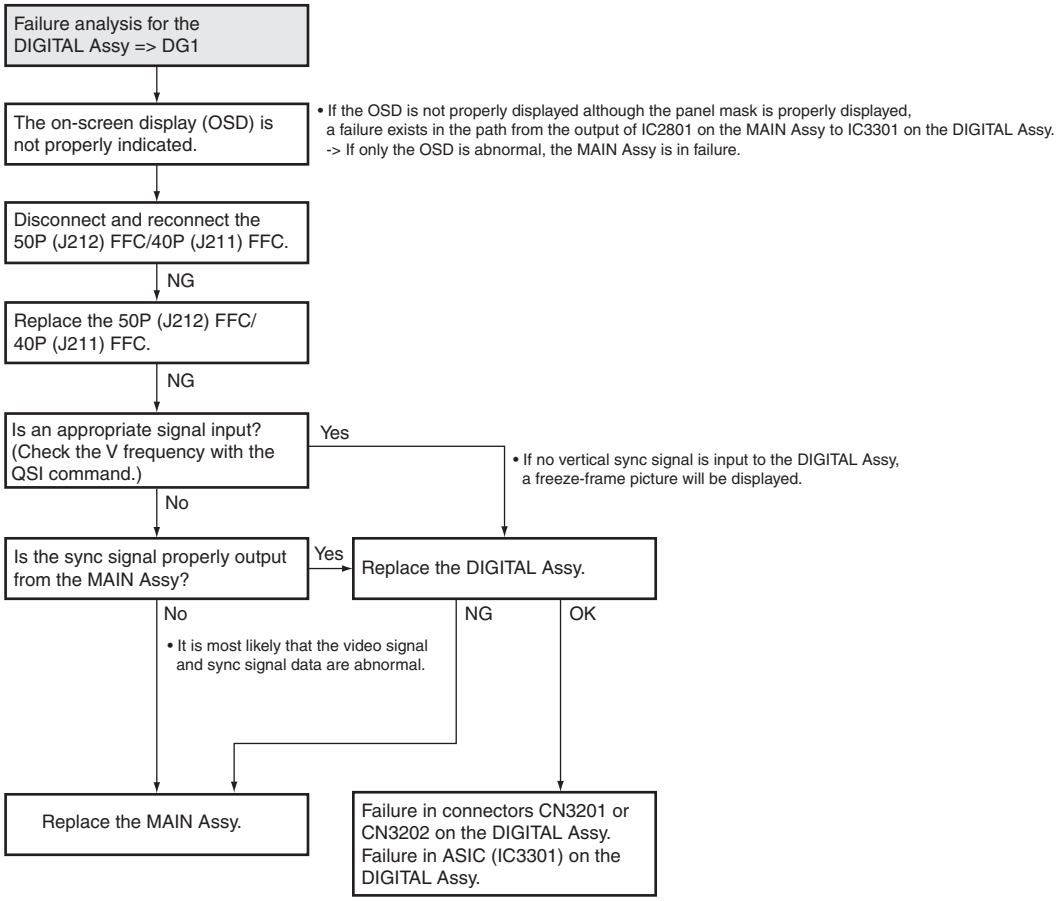
Note 1:
In a case where confirmation of the waveform for a particular line is impossible with an oscilloscope, it is possible to identify a defective line by lighting a particular line, using the following commands: (The SCAN IC outputting each line refers to the table.)
PON
FAY
MKRS01
BSMS01 (Command for reducing phosphor burn-in)
$250000**** (In place of ****, input a figure between 0001 and 1080, which denotes an ordinal number of a particular line.)

With the above commands, a particular line lights. Be careful to light a line for as short a time as possible, to avoid phosphor burn-in.
After a particular line is identified, display an all-white screen to protect the screen from burn-in.

IC No.	Line Number	Object Line
No 1	66	0001 to 0066
No 2	68	0067 to 0134
No 3	68	0135 to 0202
No 4	68	0203 to 0270
No 5	68	0271 to 0338
No 6	68	0339 to 0406
No 7	68	0407 to 0474
No 8	66	0475 to 0540
No 9	66	0541 to 0606
No 10	68	0607 to 0674
No 11	68	0675 to 0742
No 12	68	0743 to 0810
No 13	68	0811 to 0878
No 14	68	0879 to 0946
No 15	68	0947 to 1014
No 16	66	1015 to 1080

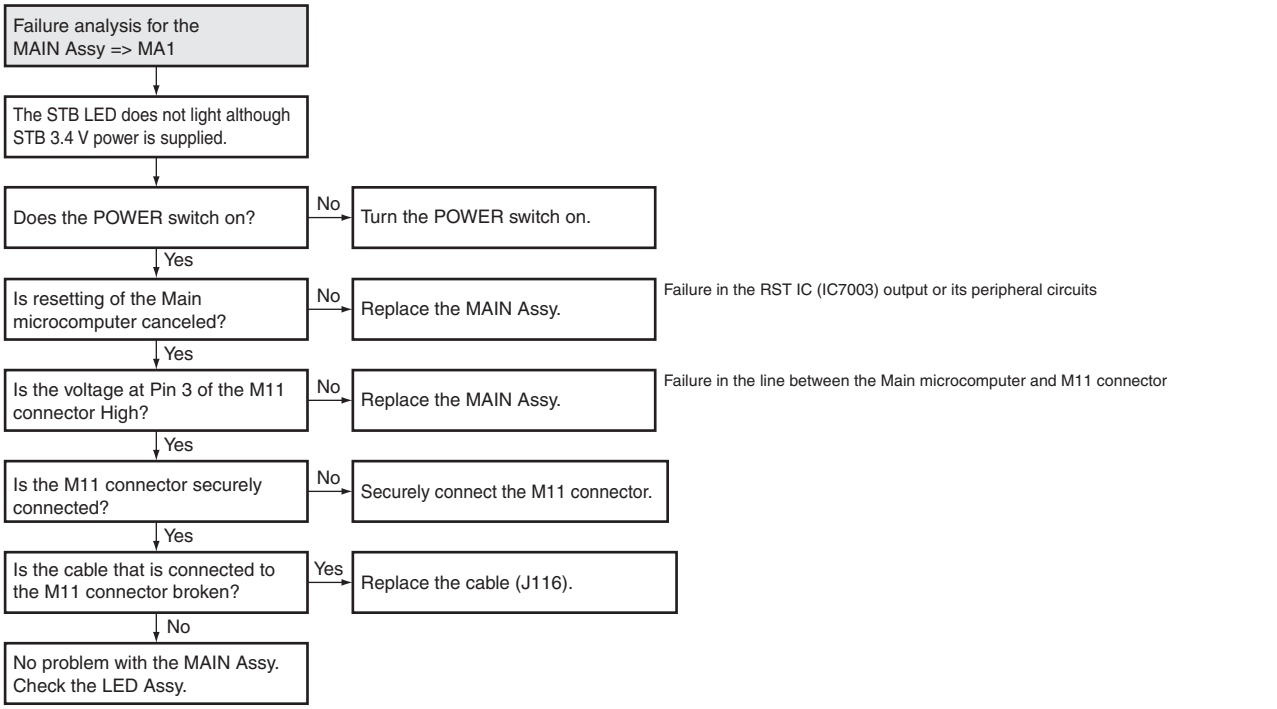
[4] DIGITAL ASSY

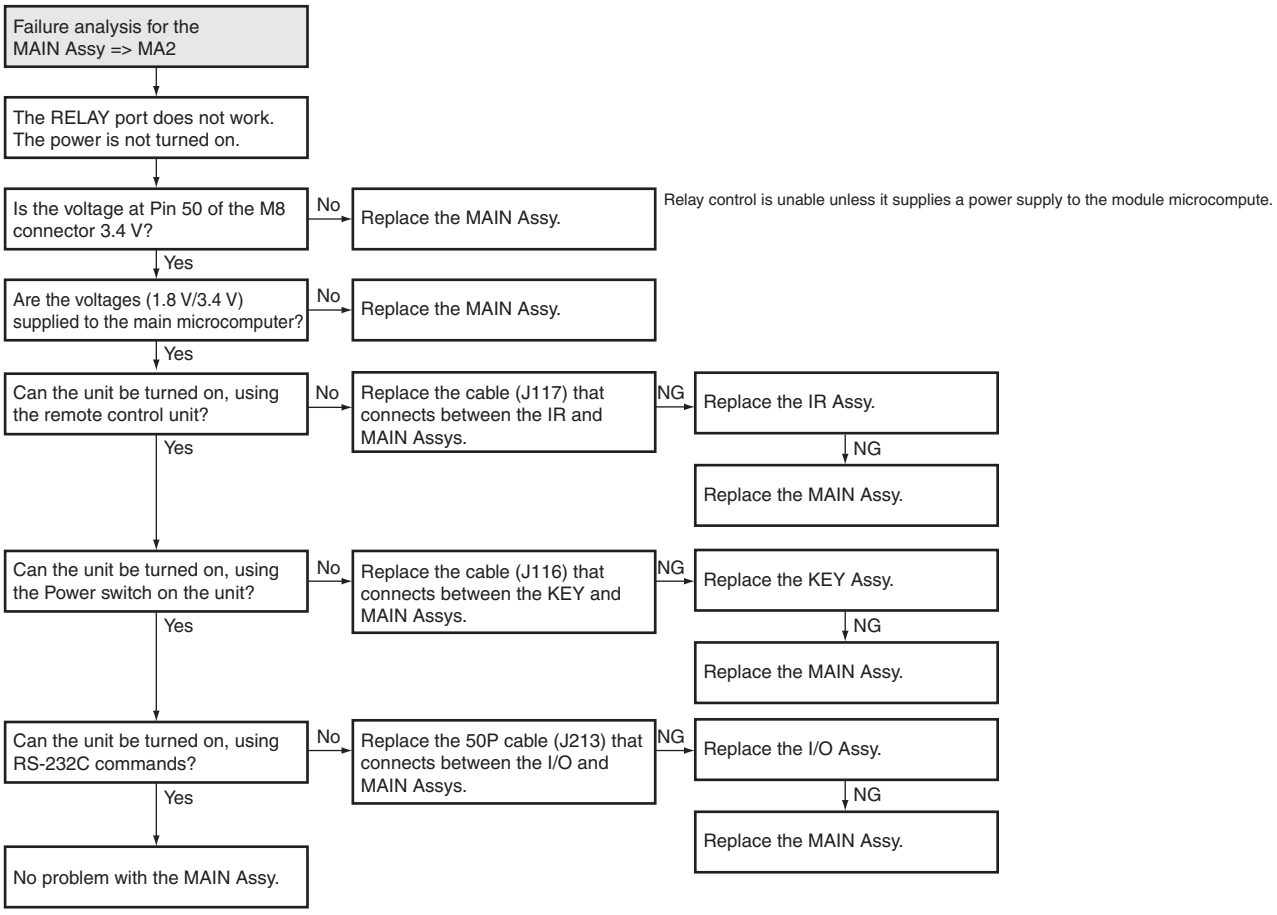
Flowchart of Failure Analysis for The DIGITAL Assy



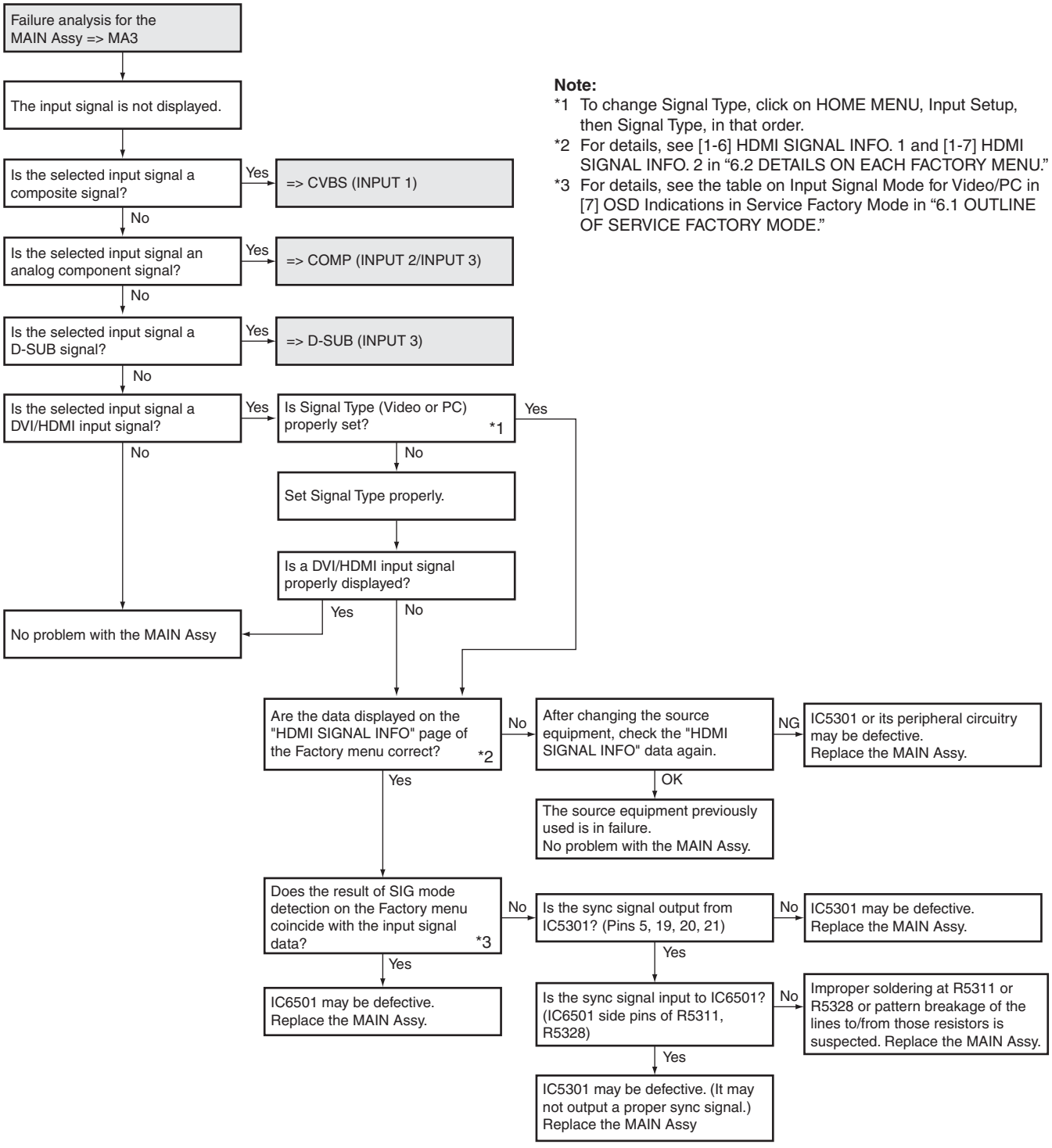
[5] MAIN ASSY

Flowchart of Failure Analysis for The MAIN Assy





Flowchart of Failure Analysis for The MAIN Assy



Note:

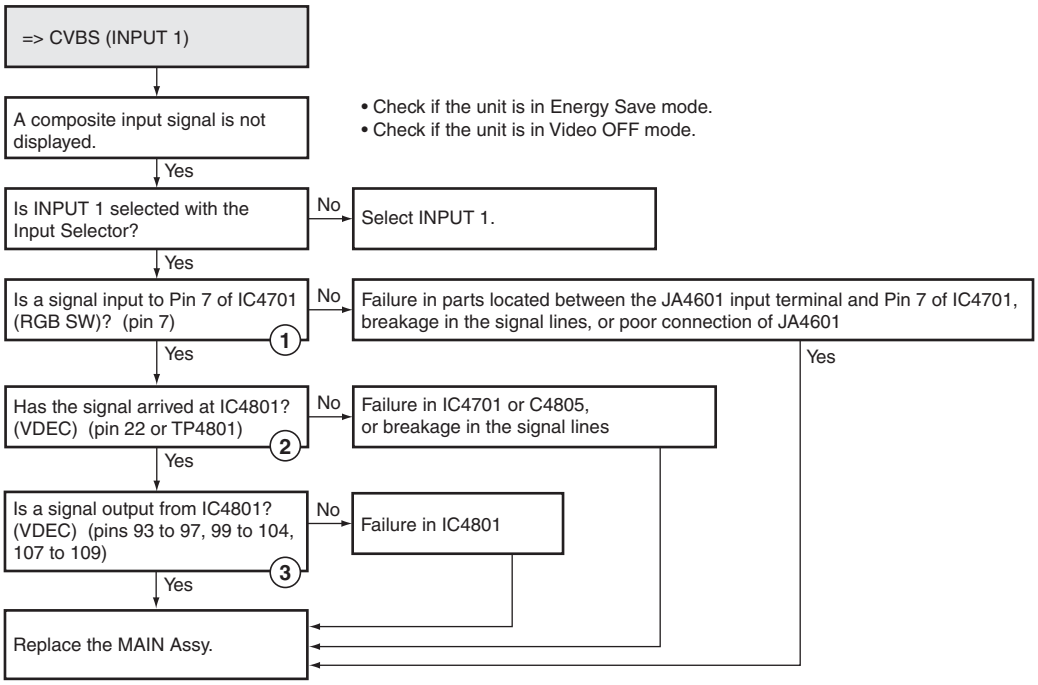
*1 To change Signal Type, click on HOME MENU, Input Setup, then Signal Type, in that order.

*2 For details, see [1-6] HDMI SIGNAL INFO. 1 and [1-7] HDMI SIGNAL INFO. 2 in “6.2 DETAILS ON EACH FACTORY MENU.”

*3 For details, see the table on Input Signal Mode for Video/PC in [7] OSD Indications in Service Factory Mode in “6.1 OUTLINE OF SERVICE FACTORY MODE.”

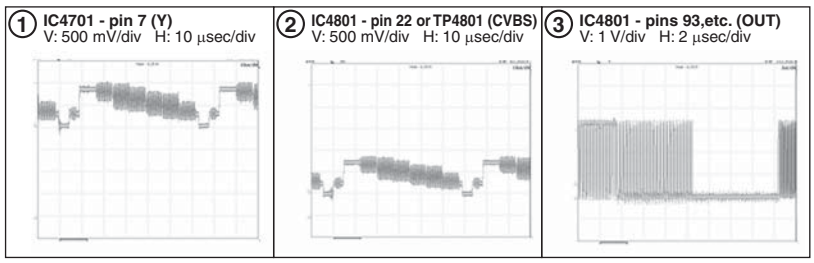
[6] VIDEO SYSTEM

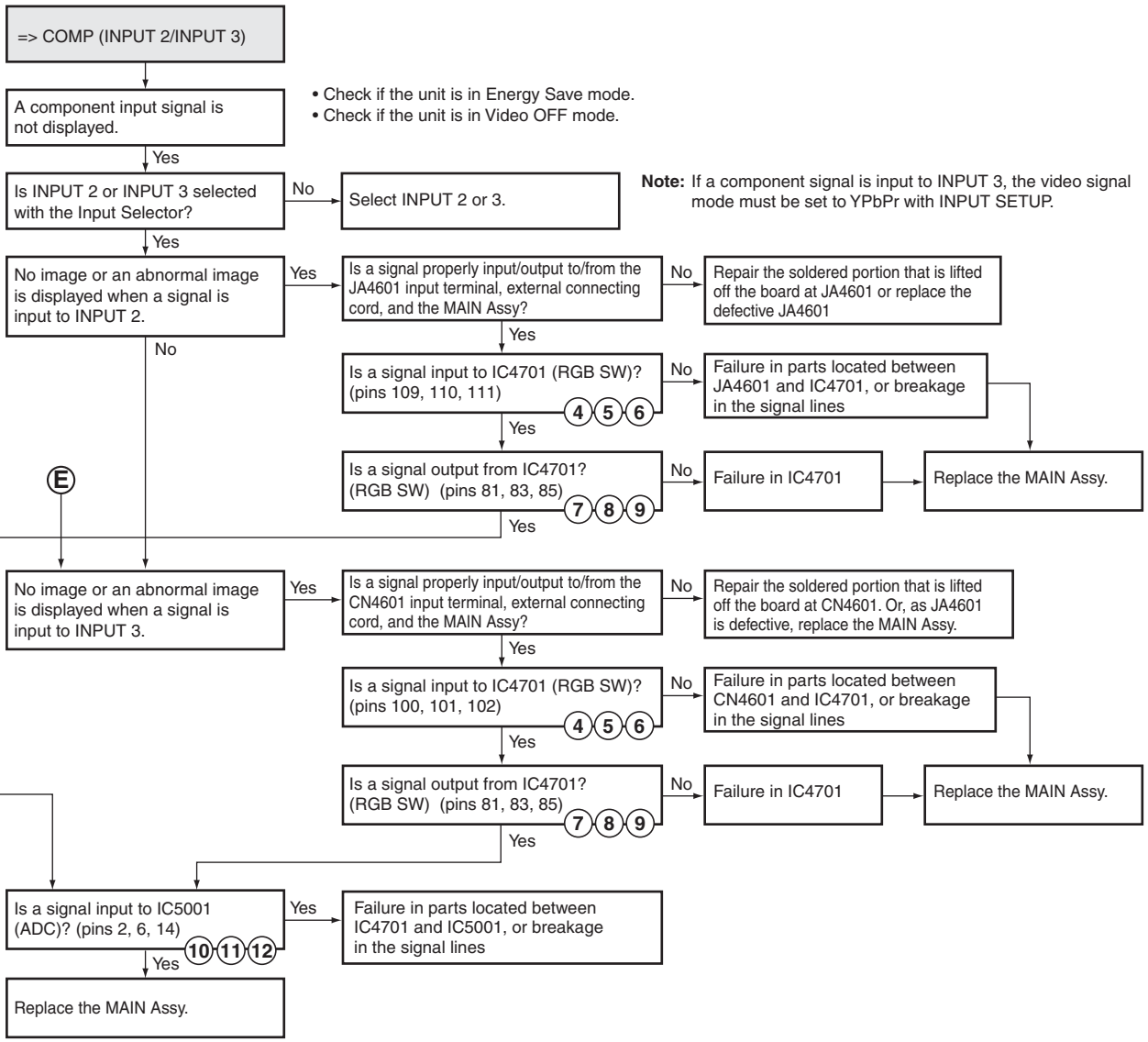
Flowchart of Failure Analysis for The Video System



● Waveforms

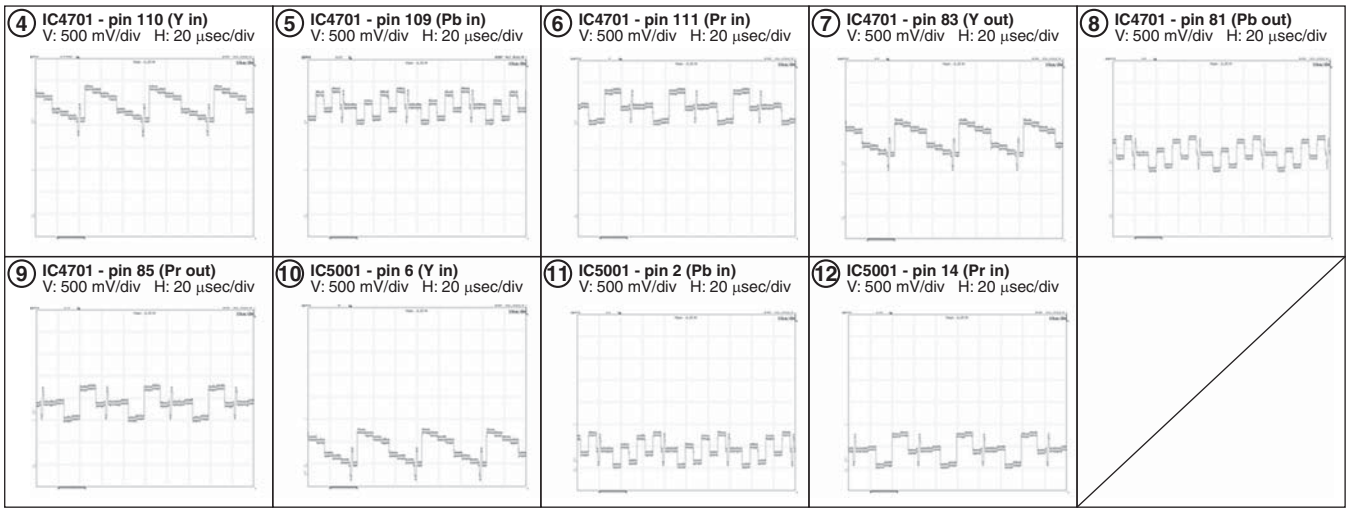
Input signal: NTSC Color-bar (RCA termial)

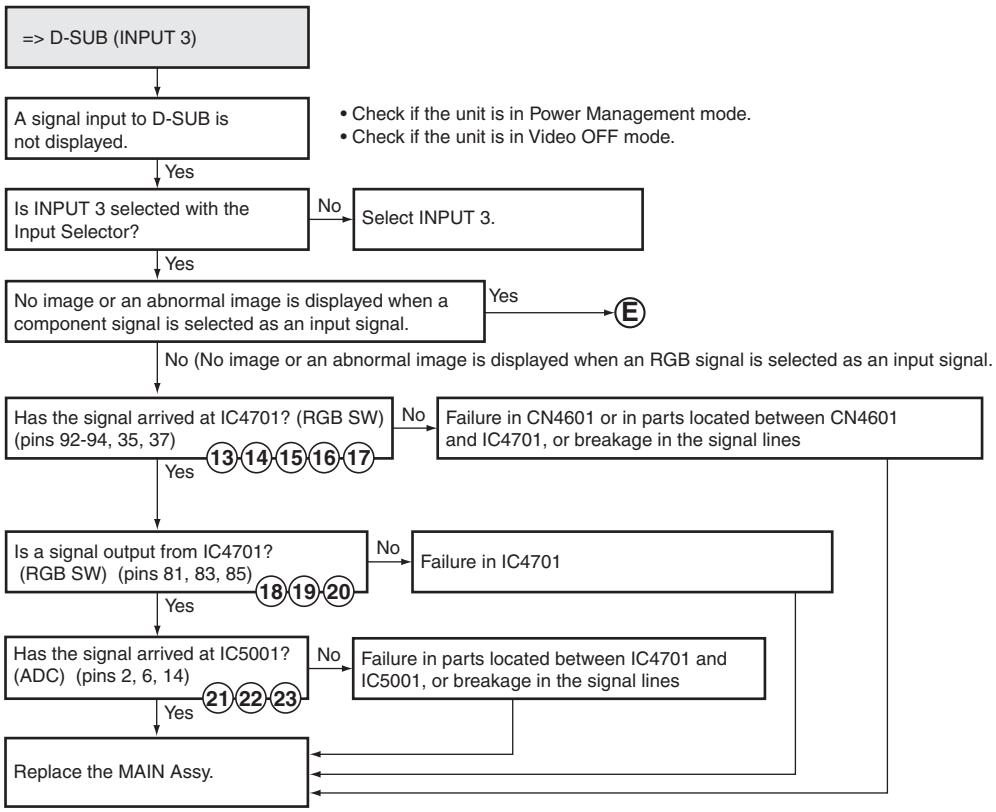




• Waveforms

Input signal: Color-bar (Component 720p/50 Hz)

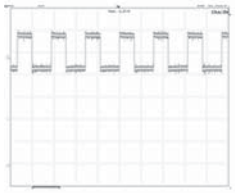




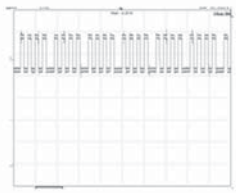
● Waveforms

Input signal: Color-bar (PC SXGA/60 Hz)

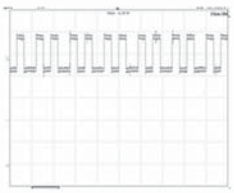
13 IC4701 - pin 93 (G in)
V: 500 mV/div H: 10 µsec/div



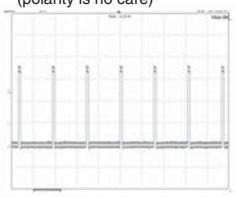
14 IC4701 - pin 92 (B in)
V: 500 mV/div H: 10 µsec/div



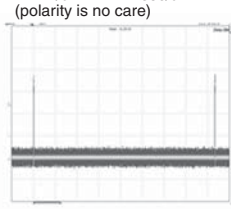
15 IC4701 - pin 94 (R in)
V: 500 mV/div H: 10 µsec/div



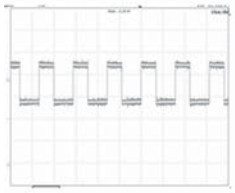
16 IC4701 - pin 35 (HD in)
V: 1 V/div H: 10 µsec/div
(polarity is no care)



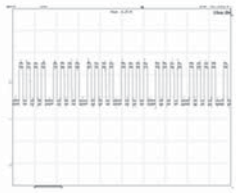
17 IC4701 - pin 37 (VD in)
V: 1 V/div H: 2 msec/div
(polarity is no care)



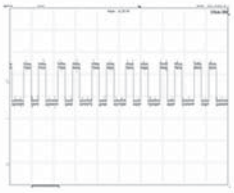
18 IC4701 - pin 83 (G out)
V: 500 mV/div H: 10 µsec/div



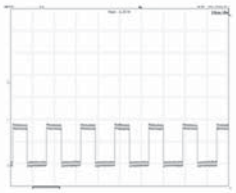
19 IC4701 - pin 81 (B out)
V: 500 mV/div H: 10 µsec/div



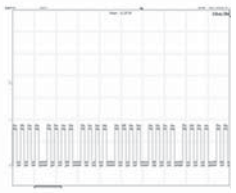
20 IC4701 - pin 85 (R out)
V: 500 mV/div H: 10 µsec/div



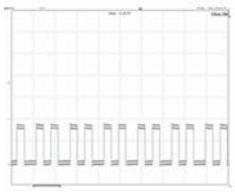
21 IC5001 - pin 6 (G in)
V: 500 mV/div H: 10 µsec/div



22 IC5001 - pin 2 (B in)
V: 500 mV/div H: 10 µsec/div

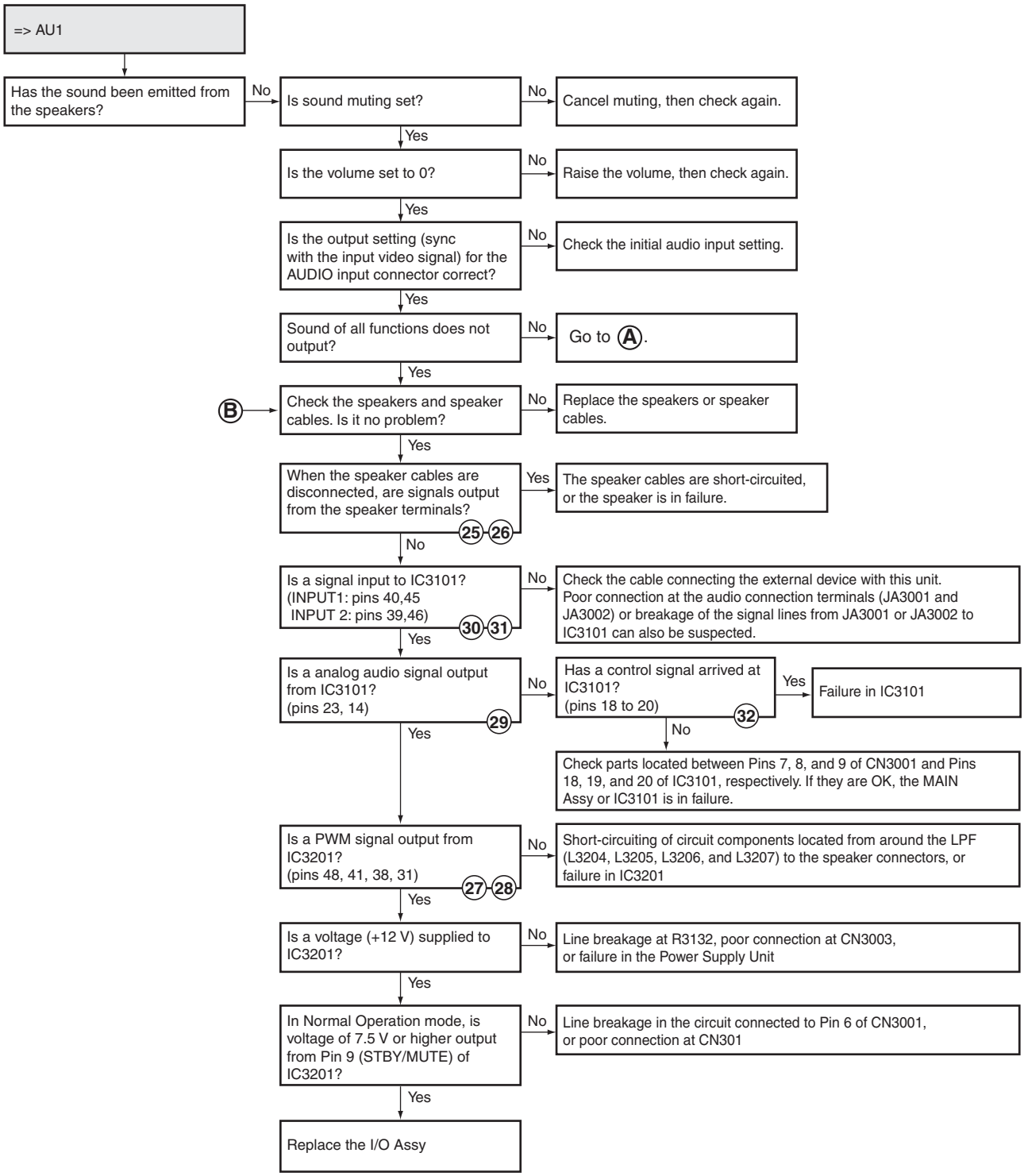


23 IC5001 - pin 14 (R in)
V: 500 mV/div H: 10 µsec/div



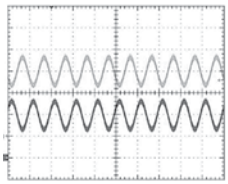
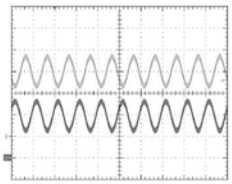
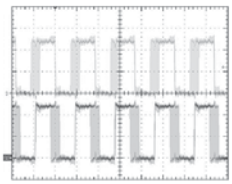
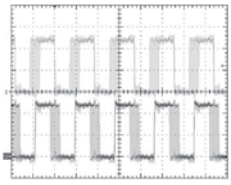
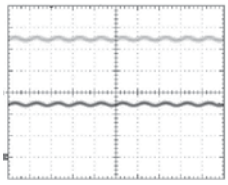
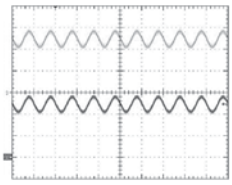
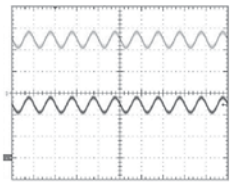
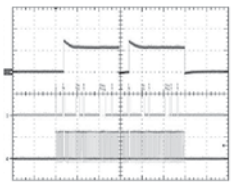
[7] I/O ASSY

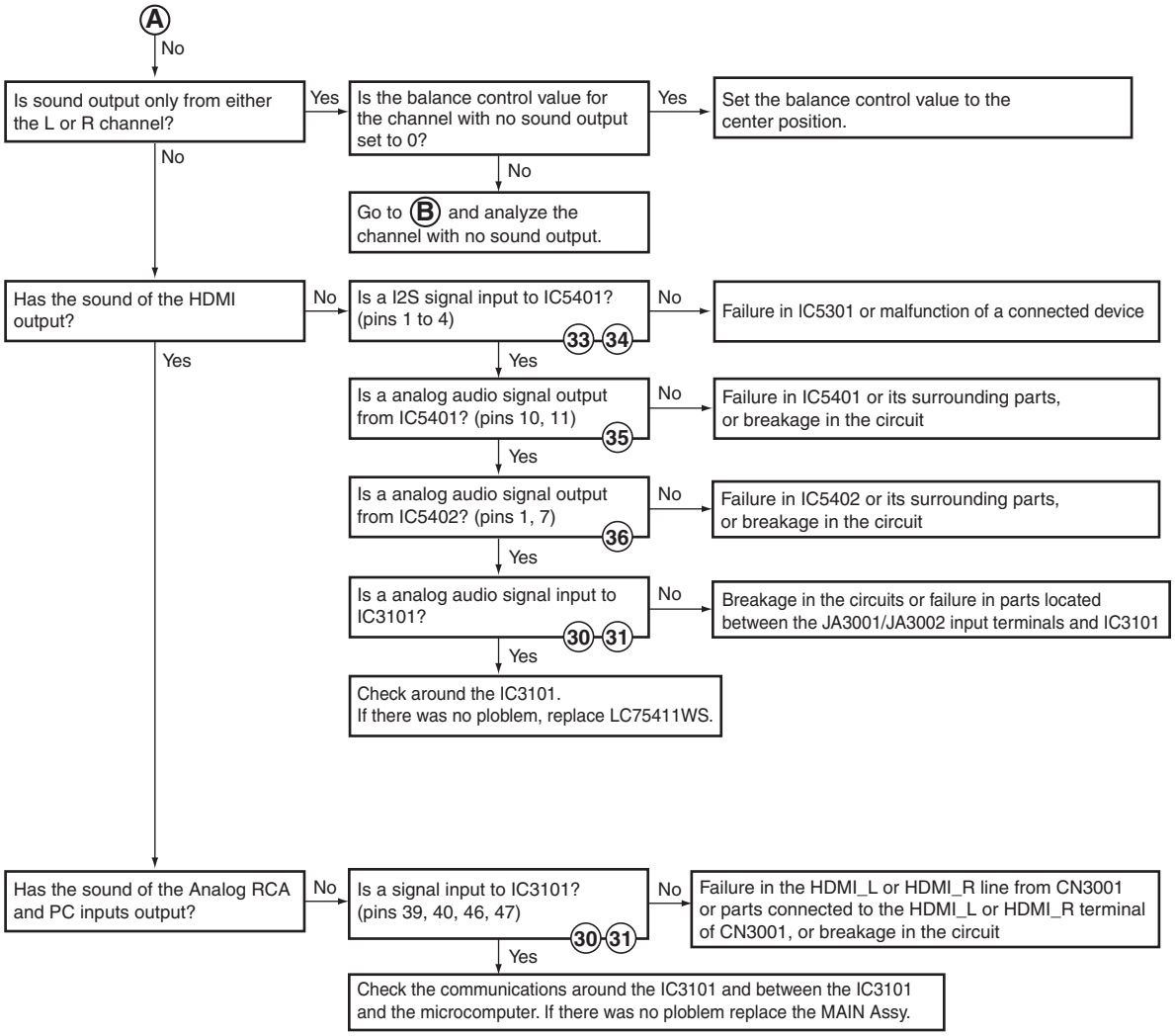
Flowchart of Failure Analysis for The Audio System (KRP-600M only)



● Waveforms

Input signal: L/R 1 kHz, 0.5 Vrms (VOL 30)

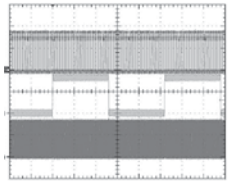
(25) **JA3201 - pins 1, 2** V: 2 V/div H: 1 mS/div	(26) **JA3201 - pins 3, 4** V: 2 V/div H: 1 mS/div	(27) **IC3201 - pins 48, 41** V: 5 V/div H: 1 μS/div	(28) **IC3201 - pins 38, 31** V: 5 V/div H: 1 μS/div
			
(29) **IC3101 - pins 14, 23** V: 2 V/div H: 1 mS/div	(30) **IC3101 - pins 40, 45** V: 2 V/div H: 1 mS/div	(31) **IC3101 - pins 39, 46** V: 2 V/div H: 1 mS/div	(32) **IC3101 - pins 18, 19, 20** V: 2 V/div H: 200 μS/div
			



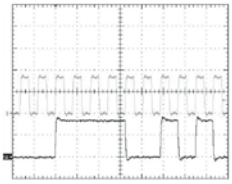
● Waveforms

Input signal: L/R 1 kHz, 0.5 Vrms (VOL 30)

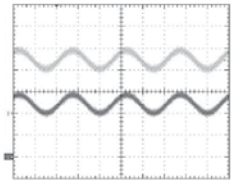
33 IC5401 - pins 1, 2, 4
V: 2 V/div H: 4 μS/div



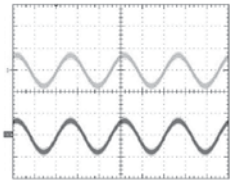
34 IC5401 - pins 2, 3
V: 2 V/div H: 400 nS/div



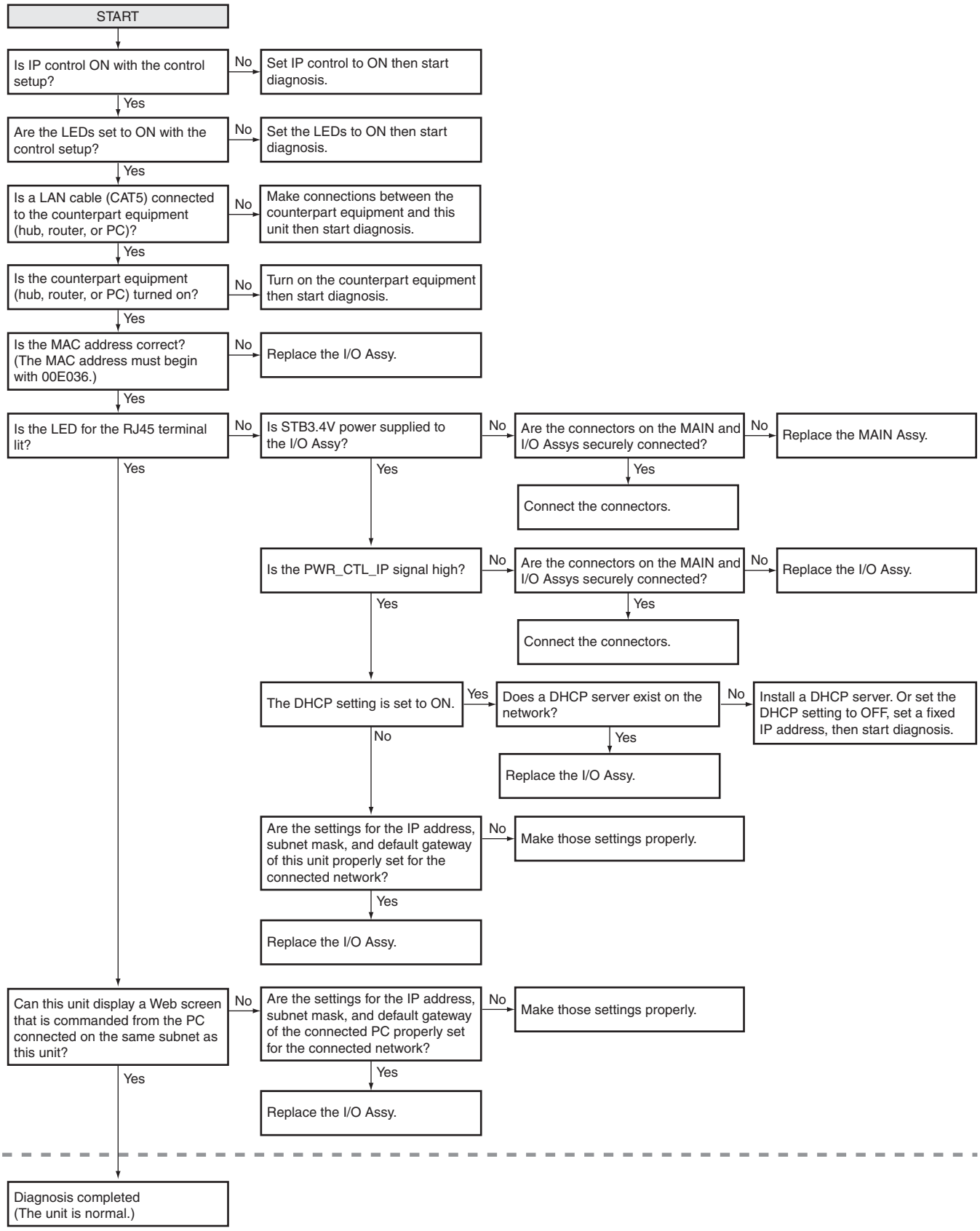
35 IC5401 - pins 10, 11
V: 1 V/div H: 400 μS/div



36 IC5402 - pins 1, 7
V: 1 V/div H: 400 μS/div

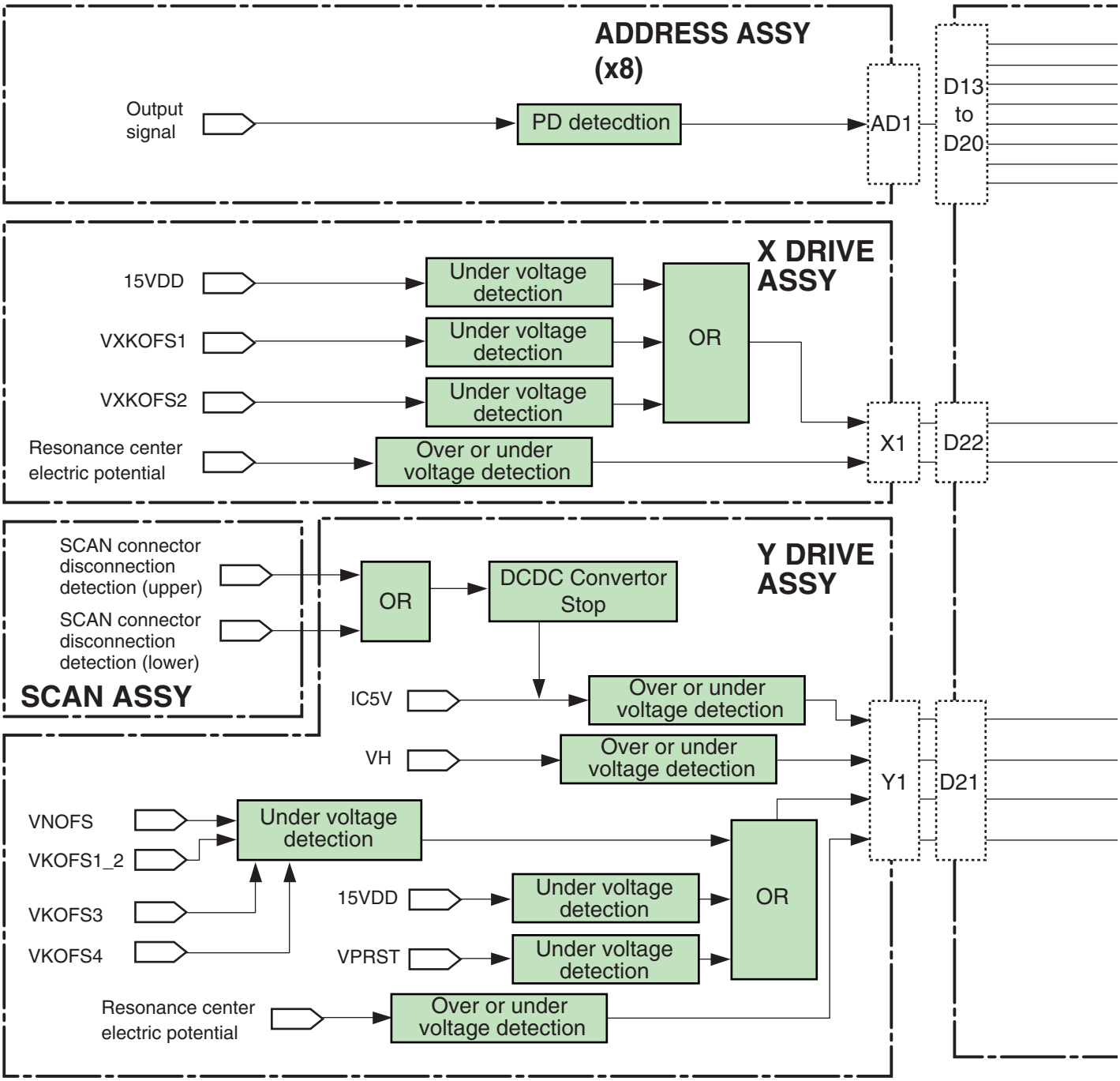


Flowchart of Failure Analysis for IP-Related

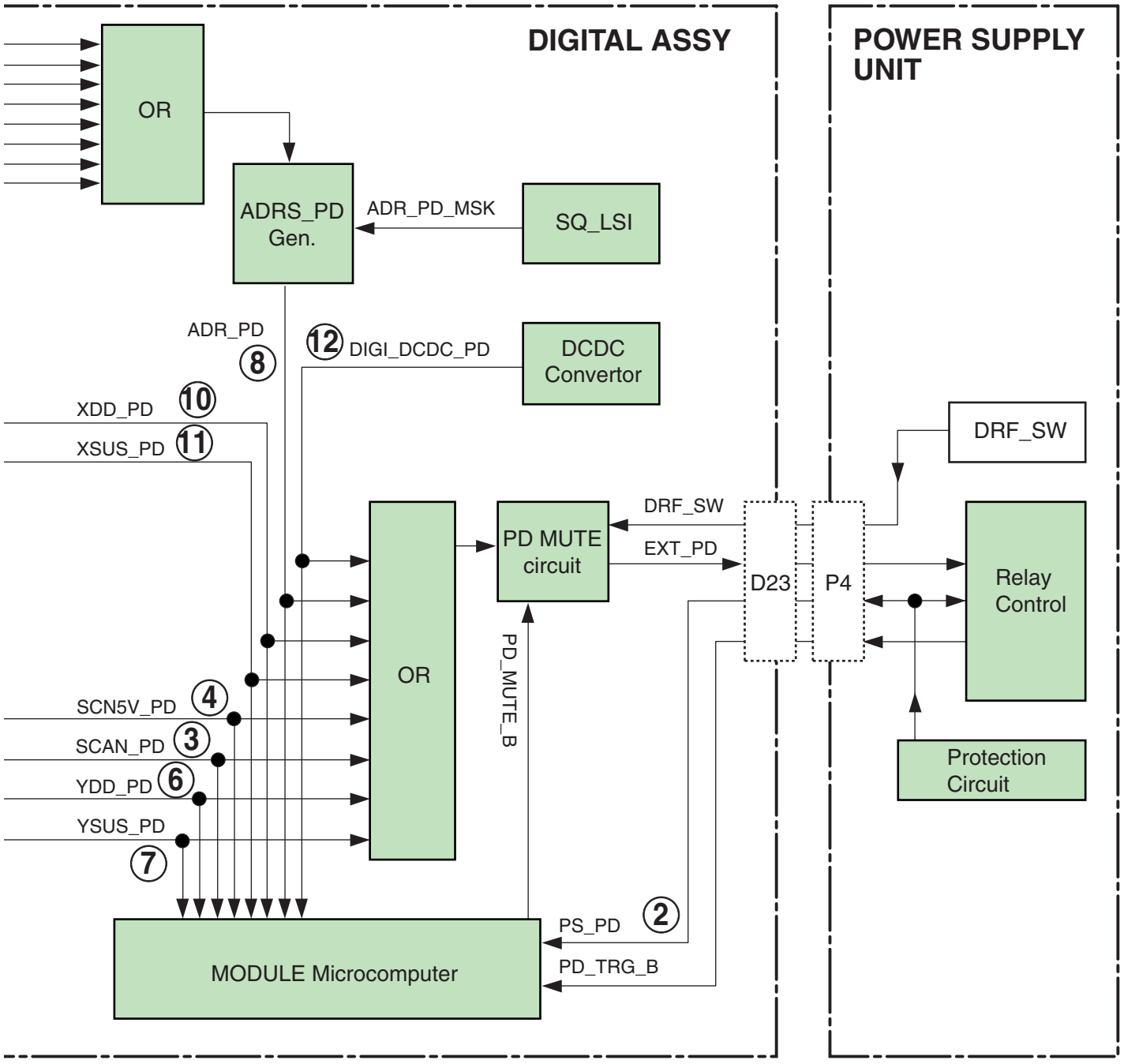


5.3 DIAGNOSIS OF PD (POWER-DOWN)

[1] BLOCK DIAGRAM OF THE POWER-DOWN SIGNAL



Note:
The figures ② to ⑫ indicate the number of times the Red LED flashes when power-down occurs in the corresponding route.



[2] PD (POWER-DOWN) DIAGNOSIS OF FAILURE ANALYSIS

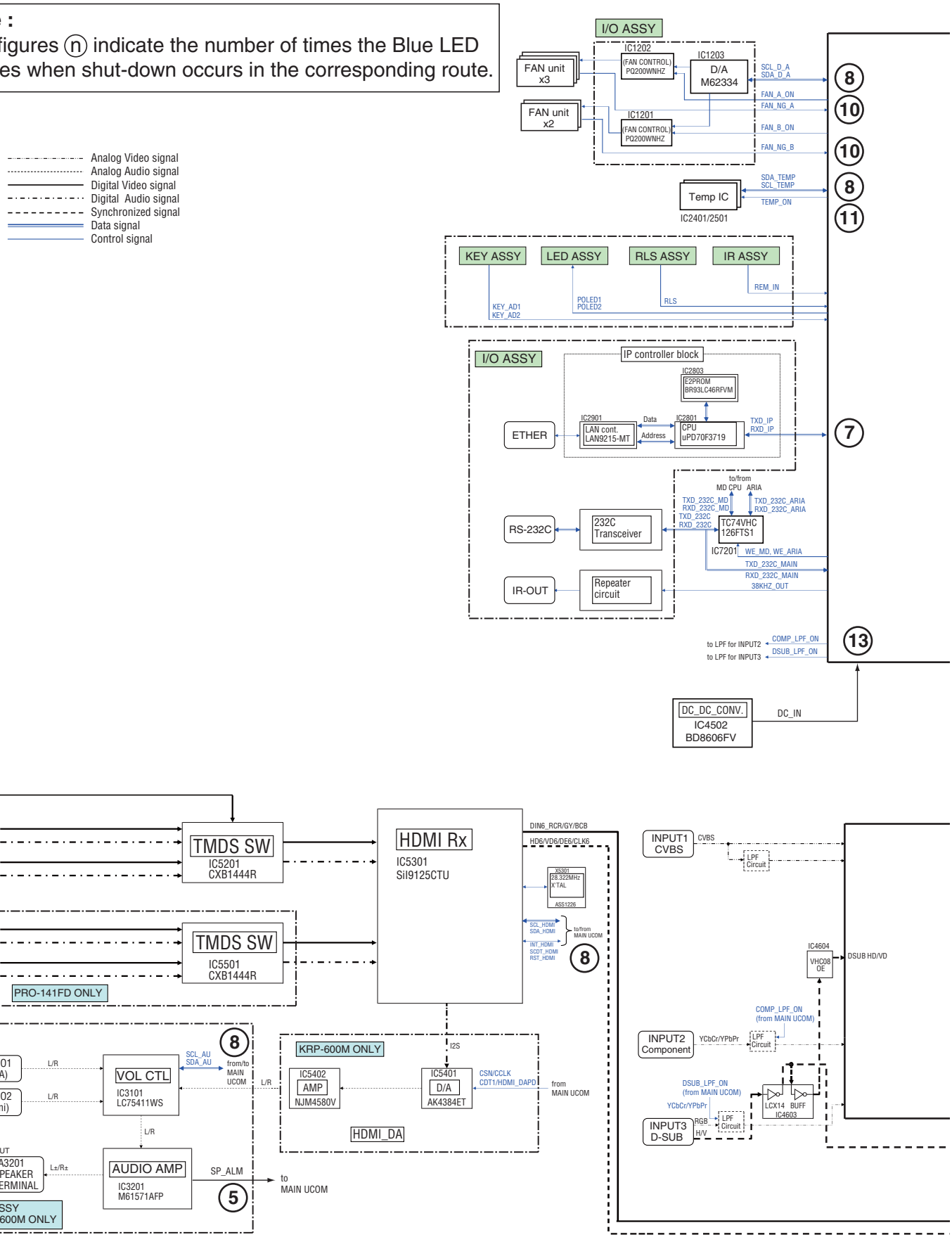
Red LED Flashing Count	Factory History Display	Defective Assy	PD Outline	Checkpoint	
2	P-PWR	POWER SUPPLY Unit	Each PD in the POWER SUPPLY Unit		
			Connector disconnection	Connector [P14][P15] (60”only)	
		X DRIVE Assy	VSUS under voltage protection	X SUS block	
		Y DRIVE Assy	VSUS under voltage protection	Y SUS block	
		ADDRESS Assy	Connector disconnection	Connector [AD1]	
		DIGITAL Assy	Connector disconnection	Connector [D13] to [D20]	
3	SCAN	SCAN Assy	VH over or under voltage protection	SCAN IC	
		X DRIVE Assy		X SUS block	
		Y DRIVE Assy		Y SUS block	
				VH DC/DC	
				OFFSET block	
			Connector disconnection	Connector [Y1][Y2]	
		DIGITAL Assy	Connector disconnection	Connector [D21]	
4	SCN5V	SCAN Assy	Connector disconnection	Connector [SA1][SB1][SB2][SC1][SC2] [SD1]	
			IC5V over or under voltage protection	SCAN IC	
		Y DRIVE Assy		IC5V DC/DC	
6	Y-DCDC	Y DRIVE Assy	VNOFS under voltage protection	Y MSK block	
				NOFS block	
				VNOFS DC/DC	
			VYPRST under voltage protection	VPRST regulaotr	
				PR-U block	
			15VDD under voltage protection	15V DC/DC	
				SOFT-G block	
			VKOFS1,2 under voltage protection	Y MSK block	
				KNOFS2 block	
				VYKOFS1, 2 regulaotr	
			VKOFS3 under voltage protection	Y MSK block	
				VYKOFS3 regulaotr	
			VKOFS4 under voltage protection	Y MSK block	
				KNOFS4 block	
				VYKOFS4 regulaotr	
7	Y-SUS	Y DRIVE Assy	Over or under voltage protection of the center electric potential	Y resonance block	
		DIGITAL Assy	SQ_LSI does not operate	SEQ_LSI (Sync input, output waveform)	
8	ADRS	ADDRESS Assy	VADR under voltage protection	Address resonance block	
				TCP	
			Connector disconnection	Connector [AD1][AD2]	
		DIGITAL Assy	Connector disconnection	Connector [D13] to [D20]	
		Y DRIVE Assy	Connector disconnection	Connector [Y2][Y5][Y6]	
		X DRIVE Assy	Connector disconnection	Connector [X2][X3][X4]	
		POWER SUPPLY Unit	Connector disconnection	Connector [P1][P2]	
10	X-DCDC	X DRIVE Assy	Connector disconnection	Connector [X1][X2]	
			15VDD under voltage protection	X SUS block	
				15V DC/DC	
			VXKOFS1 under voltage protection	VXKOFS1 regulaotr	
				X OFFSET block	
			VXKOFS2 under voltage protection	VXKOFS2 regulaotr	
				X OFFSET block	
		DIGITAL Assy	Connector disconnection	Connector [D22]	
11	X-SUS	X DRIVE Assy	Over or under voltage protection of the center electric potential	X resonance block	
12	D-DCDC	DIGITAL Assy	3.3V,2.5V,1.1V	DC/DC controlo IC	
			Over voltage/under voltage/overcurrent protection	DC/DC block	
15	UNKNOW	POWER SUPPLY Unit	Connector disconnection	Connector [P4]	
		DIGITAL Assy	Connector disconnection	Connector [D23]	
			ModuleUcom can not detection	Each PD line of ModuleUcom	

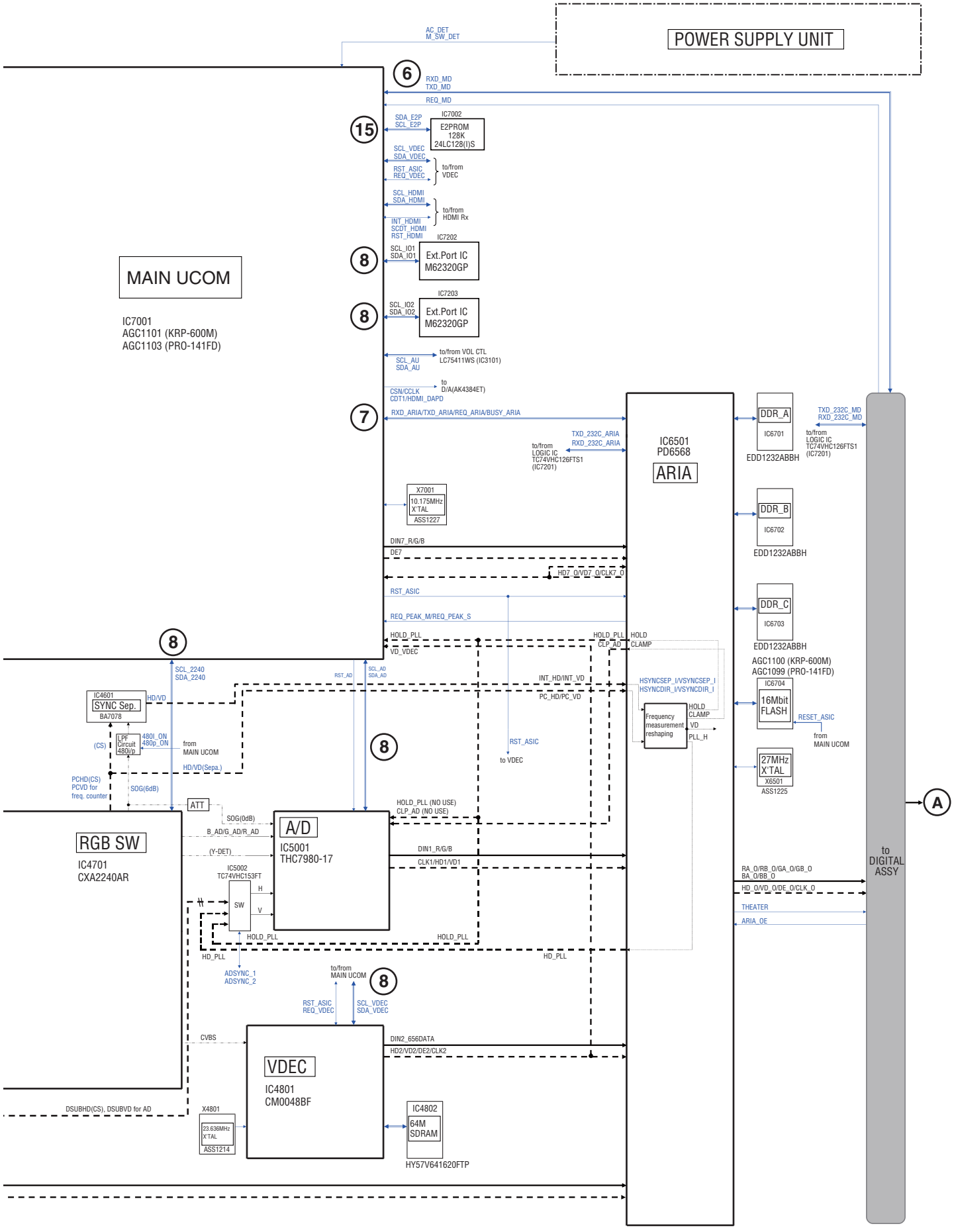
Possible Defective Part	Remarks
	The POWER SUPPLY Unit of 60 inches model is a structure of the two parts.
Q1218,Q1219,Q1221-Q1223,Q1226	VSUS-SUSOUT and SUSOUT-SUSGND are short-circuited.
Q2217-Q2224	VSUS-SUSOUT and SUSOUT-SUSGND are short-circuited.
each SCAN IC	The abnormality of the SCAN IC
Q1218,Q1219,Q1221-Q1223,Q1226	VSUS-SUSOUT and SUSOUT-SUSGND are short-circuited.
Q2217-Q2219,Q2221-Q2223	VSUS-SUSOUT and SUSOUT-SUSGND are short-circuited.
IC2601,IC2603,IC2604	
Q2401,Q2402	KNOFS1 and KNOFS3 are short-circuited.
	[SB2][SC1][SC2][SD1] are 60 inches model only.
each SCAN IC	
Q2764,D2768,R2764	
Q2321-Q2326,Q2328-Q2331,Q2333,Q2334	L MSK is short-circuited.
Q2424,Q2429	NOFS is short-circuited.
D2606,Q2709-Q2711	
Q2604,Q2605,IC2602	
Q2418	PR-U is short-circuited.
Q2662,R2669,L2301,R2335	
Q2427	SOFT-G is short-circuited.
Q2321-Q2326,Q2328-Q2331,Q2333,Q2334	L MSK is short-circuited.
Q2430	KNOFS2 is short-circuited.
Q2702,Q2705,R2714	
Q2321-Q2326,Q2328-Q2331,Q2333,Q2334	L MSK is short-circuited.
Q2703,Q2706,R2715	
Q2321-Q2326,Q2328-Q2331,Q2333,Q2334	L MSK is short-circuited.
Q2432	KNOFS4 is short-circuited.
Q2704,Q2707,R2717	
Q2106-Q2109,Q2111,Q2113,D2104-D2107	
IC3301,IC3302	The history of SD1 remains
Q1711,Q1721,Q1731,Q1741,Q1911,Q1921,Q1931,D1711,D1721,D1731,D1741,D1911,D1921,D1931	
TCP (IC1651,IC1661,IC1671,IC1681,IC1851,IC1861,IC1871)	When the TCP is damaged, replace the panel.
	Ref No. of L Assy (6 pieces) and S Assy (2 pieces) are common use.
L1201,R1217	
Q1402	
Q1405,Q1406	
Q1302,Q1304	
Q1403,Q1404	
Q1301,Q1303	
Q1108,Q1112,Q1116,Q1119	
IC3801	
Q3841,Q3861,Q3881,L3841,L3861,L3881 R3820,R3848,R3868,R3888	
	EXT_PD line : Open
	EXT_PD line : Open
	It becomes "UNKNOW" except above-mentioned PD detection condition.

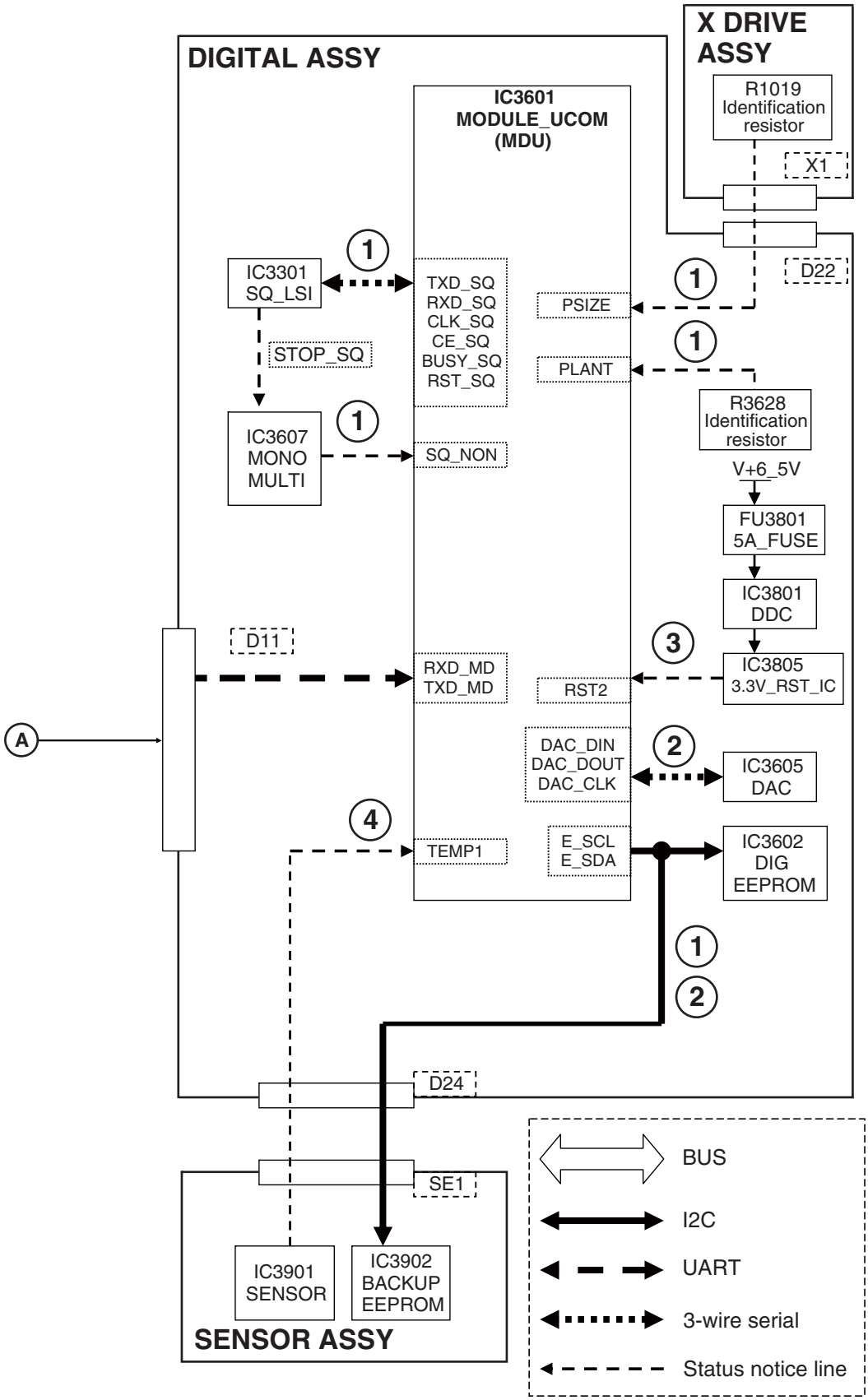
5.4 DIAGNOSIS OF SD (SHUTDOWN)

[1] BLOCK DIAGRAM OF THE SHUTDOWN SIGNAL

Note :
The figures ⓝ indicate the number of times the Blue LED flashes when shut-down occurs in the corresponding route.




POWER SUPPLY UNIT
AC_DET
M_SW_DET
MAIN UCOM
IC7001
AGC1101 (KRP-600M)
AGC1103 (PRO-141FD)
RXD_MD
TXD_MD
REQ_MD
SDA_E2P
SCL_E2P
IC7002
E2PROM
128K
24LC128(I)S
SCL_VDEC
SDA_VDEC
RST_ASIC
REQ_VDEC
to/from
VDEC
SCL_HDMI
SDA_HDMI
to/from
HDMI Rx
INT_HDMI
SCDT_HDMI
RST_HDMI
IC7202
SCL_IO1
SDA_IO1
Ext.Port IC
M62320GP
IC7203
SCL_IO2
SDA_IO2
Ext.Port IC
M62320GP
SCL_AU
SDA_AU
to/from VOL CTL
LC75411WS (IC3101)
CSN/CCLK
CDT1/HDMI_DAPD
to
D/A(AK4384ET)
RXD_ARIA/TXD_ARIA/REQ_ARIA/BUSY_ARIA
TXD_232C_ARIA
RXD_232C_ARIA
to/from
LOGIC IC
TC74VHC126FTS1
(IC7201)
IC6501
PD6568
ARIA
DDR_A
IC6701
EDD1232ABBH
TXD_232C_MD
RXD_232C_MD
to/from
LOGIC IC
TC74VHC126FTS1
(IC7201)
X7001
10.175MHz
X'TAL
ASS1227
DDR_B
IC6702
EDD1232ABBH
DIN7_R/G/B
DE7
HD7_0/VD7_0/CLK7_0
RST_ASIC
REQ_PEAK_M/REQ_PEAK_S
DDR_C
IC6703
EDD1232ABBH
AGC1100 (KRP-600M)
AGC1099 (PRO-141FD)
HOLD_PLL
VD_VDEC
HOLD_PLL
CLP_AD
HOLD
CLAMP
SCL_2240
SDA_2240
RST_AD
SCL_AD
SDA_AD
INT_HD/INT_VD
PC_HD/PC_VD
HSYNCSEP_I/VSYNCSEP_I
HSYNCDIR_I/VSYNCDIR_I
IC6704
16Mbit
FLASH
RESET_ASIC
from
MAIN UCOM
IC4601
SYNC Sep.
BA7078
HD/VD
(CS)
LPF
Circuit
480i/p
480I_ON
480p_ON
from
MAIN UCOM
HD/VD(Sepa.)
PCHD(CS)
PCVD for
freq. counter
SOG(6dB)
RST_ASIC
to VDEC
Frequency
measurement
reshaping
HOLD
CLAMP
VD
PLL_H
27MHz
X'TAL
X6501
ASS1225
ATT
SOG(0dB)
B_AD/G_AD/R_AD
(Y-DET)
HOLD_PLL (NO USE)
CLP_AD (NO USE)
RGB SW
IC4701
CXA2240AR
A/D
IC5001
THC7980-17
DIN1_R/G/B
CLK1/HD1/VD1
IC5002
TC74VHC153FT
SW
H
V
HOLD_PLL
HOLD_PLL
HD_PLL
HD_PLL
ADSYNC_1
ADSYNC_2
to/from
MAIN UCOM
RST_ASIC
REQ_VDEC
SCL_VDEC
SDA_VDEC
CVBS
DIN2_656DATA
HD2/VD2/DE2/CLK2
VDEC
IC4801
CM0048BF
DSUBHD(CS), DSUBVD for AD
X4801
23.636MHz
X'TAL
ASS1214
IC4802
64M
SDRAM
HY57V641620FTP
RA_0/RB_0/GA_0/GB_0
BA_0/BB_0
HD_0/VD_0/DE_0/CLK_0
THEATER
ARIA_OE
to
DIGITAL
ASSY
A


DIGITAL ASSY
X DRIVE ASSY
IC3601
MODULE_UCOM
(MDU)
R1019
Identification
resistor
X1
D22
IC3301
SQ_LSI
TXD_SQ
RXD_SQ
CLK_SQ
CE_SQ
BUSY_SQ
RST_SQ
PSIZE
PLANT
STOP_SQ
IC3607
MONO
MULTI
SQ_NON
R3628
Identification
resistor
V+6_5V
FU3801
5A_FUSE
IC3801
DDC
IC3805
3.3V_RST_IC
D11
RXD_MD
TXD_MD
RST2
A
DAC_DIN
DAC_DOUT
DAC_CLK
IC3605
DAC
TEMP1
E_SCL
E_SDA
IC3602
DIG
EEPROM
D24
SE1
IC3901
SENSOR
IC3902
BACKUP
EEPROM
SENSOR ASSY
BUS
I2C
UART
3-wire serial
Status notice line

A

B

C

D

E

F

[2] SD (SHUTDOWN) DIAGNOSIS

Frequency of LED Flashing	Major Type	Detailed Type	Log Indication in Factory Mode		
			MAIN	SUB	
Blue 1	Abnormality in the Sequence LSI	Communication error	SQ-LSI	RTRY	
		Drive stop		SQNO	
		Busy		BUSY	
		Version mismatching (hardware, software)		VER-HS	
		Version mismatching (hardware, backup memory)		VER-HM	
		Version mismatching (hardware, DIGITAL memory)		VER-HI	
Blue 2	Failure in MDU device communication	Digital EEPROM	MD-DEV	EEPROM	
		Backup EEPROM		BACKUP	
		DAC IC		DAC	
Blue 3	Abnormality in RST2 power decrease	–	RST2	–	
Blue 4	Abnormality in panel temperature	Abnormality in high temperature	TMP-NG	TMP-H	
		Abnormality in low temperature		TMP-L	
Blue 5	Short-circuiting of the speakers	–	AUDIO	AUDIO	
Blue 6	Failure in communication with the module microcomputer	–	MODULE	–	
Blue 7	Failure in MAIN microcomputer 3-wire serial communication	MULTI	MA-3L	MULTI	
		IP microcomputer		IP	
Blue 8	Failure in IIC communication with the main microcomputer	Audio IC	MA-IIC	AU	
		RGB switch		RGB-SW	
		Main VDEC		VDEC	
		VDEC SDRAM		SDRAM	
		AD/PLL		ADC	
		HDMI		HDMI	
		Temperature sensor		TEMP	
		Expansion I/O		IO	
		DA for FAN		DA	
Blue 10	Abnormality in FAN	FAN2	FAN	FAN2	
Blue 11	High temperature of the unit	–	TEMP2	–	
Blue 13	Failure in the power supply	DC-DC Converter power decrease	RST-MA	M-DCDC	
Blue 15	Main EEPROM	Main EEPROM communication error	MA-EEP	–	

Checkpoint	Possible Defective Part	Remarks
Communication line between MDU and SQ_LSI	IC3601/IC3301	SQ_IC communication not established. IC3301 may not have properly started up.
Drive detectig signal of MDU (SQ_NON)	CN3201/IC3601/ IC3301/IC3607	A shutdown occurs if the drive waveform periodically does not output. (When SQ_NON of MDU input is High, a shutdown is generated.)
Communication line between MDU and SQ_LSI (BUSY_SQ)	IC3601/IC3301	If BUSY_SQ remains high, a shutdown is generated.
Check the DIGITAL Assy and the software version of SEQ and the destination of the panel. Check the connection between [X1] and [D22].	IC3601/IC3301	When the identification resistor of PSIZE/PLANT and software version of SEQ are incoherent, a shutdown occurs.
Check the DIGITAL Assy and the software version of SEQ and the destination of the panel. Check the connections between [X1] and [D22], and [SE1] and [D24]. Communication line between MDU and BACKUP EEPROM	IC3601/ SENSOR Assy(IC3902)	When the identification resistor of PSIZE/PLANT and stored content of EEPROM on the SENSOR Assy are incoherent, a shutdown occurs.
Check the DIGITAL Assy and the software version of SEQ and the destination of the panel. Check the connections between [X1] and [D22]. Communication line between MDU and DIG EEPROM	IC3601/IC3602	When the identification resistor of PSIZE/PLANT and stored content of EEPROM on the DIGITAL Assy are incoherent, a shutdown occurs.
Communication line between MDU and DIG EEPROM	IC3601/IC3602	
Communication line between MDU and BACKUP EEPROM	IC3601/SENSOR Assy(IC3902)	
Communication line between MDU and DAC	IC3601/IC3605	
3.3 V output (TP3881) of DDC	IC3801/IC3805	If RST2 does not become high after the unit is turned on, a shutdown will be generated in several seconds.
V+6.5V of POWER SUPPLY Unit (Check [D25][P4]) FU3801 has melted.	POWER SUPPLY Unit, FU3801	Check if V + 6_5 V is started. Also check if the FU3801 on the DIGITAL Assy has been melted.
Installation environment	SENSOR Assy (IC3901)	If TEMP1 that is read by the module microcomputer is 85 °C or higher, a shutdown will be generated.
Installation environment Check the connection between SE1 and D24.	SENSOR Assy (IC3901)	A shutdown occurs if the reading of TEMP1 detected by the module micro-computer is –20 °C or less. Also check the connection between SE1 and D24.
Speaker terminals	JA3201	Check if any speaker cable is in contact with the chassis.
D_AMP	IC3201	Check if the AMP output is short-circuited.
Periphery of the cable between IO and MAIN	CN3001	Check if cables are firmly connected.
Communication line between MAIN and MOD	IC7001	Check the communication lines (TXD_MD/RXD_MD,REQ_MD).
Periphery of the cable between D11 and M4	CN4002	Check if cables are firmly connected.
Communication line between MULTI and MAIN	IC7001,IC6501	Check the communication lines (TXD_ARIA/RXD_ARIA).
Communication line between IP and MAIN	IC7001,IC2801	Check the communication lines (TXD_IP/RXD_IP).
IIC communication line between MSP/MAP and MAIN	IC3101,IC7001	Check the communication lines (SCL_AU/SDA_AU).
IIC communication line between RGB_SW and MAIN	IC4701,IC7001	Check the communication lines (SCL_2240/SDA_2240).
IIC communication line between M_VDEC and MAIN	IC4801,IC7001	Check the communication lines (SCL_VDEC/SDA_VDEC).
IIC communication line between VDEC and SDRAM	IC4801,IC4802	Check the communication lines (SDRAM). Defective SDRAM.
IIC communication line between ADC and MAIN	IC5001,IC7001	Check the communication lines (SCL_AD/SDA_AD).
IIC communication line between HDMI_RX and MAIN	IC5301,IC7001	Check the communication lines (SCL_HDMI/SDA_HDMI).
IIC communication line between TEMP and MAIN	IC2401,IC2501,IC7001	Check the communication lines (SCL_TEMP/SDA_TEMP).
IIC communication line between IO and MAIN	IC7001,IC7202,IC7203	Check the communication lines (SCL_IO/SDA_IO).
IIC communication line between DA and MAIN	IC1203,IC7001	Check the communication lines (SCL_D_A/SDA_D_A).
Dirt attached to the fan motor		Check the fan. (SD10 does not detect it at the temperature that fans do not turn.)
Periphery of the FAN TYUKEI Assy		FAN NG
Periphery of the cable between FA1 and FA3		Check if cables are firmly connected.
Periphery of the fan control regulator	IC1201,IC1202	Check that the voltage outputs it.
Ambient temperature		TEMP2 A shutdown occurs because of high temperature.
Temperature sensor or its periphery	IC2401,IC2501	TEMP2
Periphery of the cable between SENB, SENC and MAIN		Check if cables are firmly connected.
DC_IN	IC7001	Check if each voltages are started.
IIC communication line between EEPROM and MAIN	IC7001, IC7002	Check the communcation lines (SCL_E2P/SDA_E2P)

5.5 NON-FAILURE INFORMATION

[1] INFORMATION ON SYMPTOMS THAT DO NOT CONSTITUTE FAILURE

■ For PRO-141FD

Symptom	Cause, item to check, information
Symptoms concerning the input format and settings	
The picture color for an INPUT 4 to 8 signal is not correct.	The color setting for INPUT 4 to 8 is not compatible with that of the output equipment. Check whether the color setting is YPbPr or RGB.
The audio signal input to the INPUT 5 to 8 is not output. No HDMI signal is input.	The audio setting for INPUT 5 to 8 is any setting and a video signal is not input. If the audio setting is any setting to output an analog audio signal, the HDMI signal must be input. (If a DVI device is to be connected, use a DVI-HDMI conversion cable.) If the HDMI video signal is not input, the analog audio signal is not output.
The 1080p input signal is not displayed properly or at all, although the 1080i input signal is displayed properly.	Check that the connected cable supports HDMI Category 2. (As the clock frequency for the 1080p signal is triple that for the 1080i signal, signal degradation caused by a cable must not be neglected. A cable supporting HDMI Category 2 can be used for the 1080p signal. Although some conventional cables can support the 1080p signal, some others cannot.)
Video signal not displayed	INPUT 3: Color Decoding is not set correctly for Color Difference signal (1 or 2).
	INPUTs 4–8: Signal identification is not correctly set to Video.
PC signal not displayed	INPUT 3: Color Decoding is not set correctly for RGB.
	INPUTs 4–8: Signal identification is not correctly set to PC.
The contour of PC signals is not displayed properly	Set the signal format properly, according to the resolution of the signal being input.
Miscellaneous	
The no-signal off function is not activated.	The no-signal off and no-operation off functions are effective only if video (composite, component, Dsub, DVI/HDMI [excluding PC]) input or TV input is selected.
The no-operation off function is not activated.	
Power management does not function.	Power management is possible only when an analog PC signal, DVI-PC signal, or HDMI-PC signal is being input. While an input signal other than those is being input, power management is not available.
The picture-quality setting (AV Selection) is not stored.	The picture-quality setting is stored for each input. As the setting is changed when another input is selected, the user may have a false idea that the setting is not stored.
The picture size changes arbitrary.	The Auto Size setting is set to ON.
The display position of the screen changes slightly while the screen is on.	The orbiter function for minimizing the effects of phosphor burn is activated. Although the setting for this function can be changed on the Home menu, retaining the factory setting is strongly recommended.
On a 2-screen or BANNER PIP display, the specified input signal is not displayed.	Some combinations of input signals are not allowed in 2-screen and BANNER PIP display. For details on the combination of input signals, see the table below:
The set value for each PICTURE item has not been stored in memory.	Has the INTEGRATOR menu been opened? If it is opened, the values for all PICTURE items (including Pro Adjust), except for AV SELECTION, become those set on the INTEGRATOR menu.

SUPPLEMENT: On the video setting for HDMI

There are three types of HDMI output formats: color difference 4:4:4, color difference 4:2:2, and RGB4:4:4.
(The proportions, such as 4:4:4 and 4:2:2, represent those of the amount of data for video signal components. For example, as for color difference 4:4:4, the proportion of the amount of data as for Y, Cb, and Cr is 4:4:4.)

It is required to make the settings of the PDP according to the settings of the output equipment. For usual operation, however, set them to AUTO. If the color is inappropriate, make the settings manually.
In the HDMI system, video signals are coded at 24 bits per pixel and transmitted as a series of 24-bit pixels. In a case of color difference 4:4:4, Y, Cb, and Cr use 8 bits each. In a case of color difference 4:2:2, Y, Cb, and Cr use 12 bits each, but Cb and Cr are transmitted at a half sampling rate of Y. This unit is capable of processing the upper 10 bits out of 12 bits of video data. Recent high-end DVD players, such as Pioneer DV-79AVi, are capable of outputting 10-bit color-difference signals. In general, it is said that picture quality for color difference 4:2:2 format is assumed to be higher, because human eyes are more sensitive to luminance than to colors. In the case of RGB4:4:4, R, G, and B use 8 bits each.

■ For KRP-600M

Symptom	Cause, item to check, information
Symptoms concerning the input format and settings	
The picture color for an INPUT 4 to 8 signal is not correct.	The color setting for INPUT 4 to 8 is not compatible with that of the output equipment. Check whether the color setting is YPbPr or RGB.
The audio signal input to the INPUT 5 to 6 is not output. No HDMI signal is input.	The audio setting for INPUT 5 to 6 is any setting and a video signal is not input. If the audio setting is any setting to output an analog audio signal, the HDMI signal must be input. (If a DVI device is to be connected, use a DVI-HDMI conversion cable.) If the HDMI video signal is not input, the analog audio signal is not output.
No sound of signals to INPUT 5 to 6 is output.	The setting on the side of the HDMI output equipment is wrong. Example: Dolby Digital
The 1080p input signal of INPUT 5 or 6 is not displayed properly or at all, although the 1080i input signal is displayed properly.	Check that the connected cable supports HDMI Category 2. (As the clock frequency for the 1080p signal is triple that for the 1080i signal, signal degradation caused by a cable must not be neglected. A cable supporting HDMI Category 2 can be used for the 1080p signal. Although some conventional cables can support the 1080p signal, some others cannot.)
Video signal not displayed	INPUT 3: Color Decoding is not set correctly for Color Difference signal (1 or 2).
	INPUTs 4–6: Signal identification is not correctly set to Video.
PC signal not displayed	INPUT 3: Color Decoding is not set correctly for RGB.
	INPUTs 4–6: Signal identification is not correctly set to PC.
The contour of PC signals is not displayed properly	Set the signal format properly, according to the resolution of the signal being input.
Audio signals to INPUTs 1–4 are not output	Set Audio Input 1 and Audio Input 2 correctly.
Miscellaneous	
The no-signal off function is not activated.	The no-signal off and no-operation off functions are effective only if video (composite, component, Dsub, DVI/HDMI [excluding PC]) input or TV input is selected.
The no-operation off function is not activated.	
Power management does not function.	Power management is possible only when an analog PC signal, DVI-PC signal, or HDMI-PC signal is being input. While an input signal other than those is being input, power management is not available.
The picture-quality setting (AV Selection) is not stored.	The picture-quality setting is stored for each input. As the setting is changed when another input is selected, the user may have a false idea that the setting is not stored.
The picture size changes arbitrary.	The Auto Size setting is set to ON.
The display position of the screen changes slightly while the screen is on.	The orbiter function for minimizing the effects of phosphor burn is activated. Although the setting for this function can be changed on the Home menu, retaining the factory setting is strongly recommended.
On a 2-screen or BANNER PIP display, the specified input signal is not displayed.	Some combinations of input signals are not allowed in 2-screen and BANNER PIP display. For details on the combination of input signals, see the table below:
The set value for each PICTURE item has not been stored in memory.	Has the INTEGRATOR menu been opened? If it is opened, the values for all PICTURE items (including Pro Adjust), except for AV SELECTION, become those set on the INTEGRATOR menu.

SUPPLEMENT: On the video setting for HDMI

There are three types of HDMI output formats: color difference 4:4:4, color difference 4:2:2, and RGB4:4:4.
(The proportions, such as 4:4:4 and 4:2:2, represent those of the amount of data for video signal components. For example, as for color difference 4:4:4, the proportion of the amount of data as for Y, Cb, and Cr is 4:4:4.)

It is required to make the settings of the PDP according to the settings of the output equipment. For usual operation, however, set them to AUTO. If the color is inappropriate, make the settings manually.
In the HDMI system, video signals are coded at 24 bits per pixel and transmitted as a series of 24-bit pixels. In a case of color difference 4:4:4, Y, Cb, and Cr use 8 bits each. In a case of color difference 4:2:2, Y, Cb, and Cr use 12 bits each, but Cb and Cr are transmitted at a half sampling rate of Y. This unit is capable of processing the upper 10 bits out of 12 bits of video data. Recent high-end DVD players, such as Pioneer DV-79AVi, are capable of outputting 10-bit color-difference signals. In general, it is said that picture quality for color difference 4:2:2 format is assumed to be higher, because human eyes are more sensitive to luminance than to colors. In the case of RGB4:4:4, R, G, and B use 8 bits each.

Reference 1

Combinations of inputs for 2-screen display

The combinations of inputs for 2-screen display are shown in the table below:

		BANNER PIP screen							
		INPUT1 (VIDEO)	INPUT2 (3RCA)	INPUT3 (DSUB)	INPUT4 (DVI)	INPUT5 (HDMI1)	INPUT6 (HDMI2)	INPUT7 (HDMI3)	INPUT8 (HDMI4)
Main Screen	INPUT1	×	○	○	○	○	○	○	○
	INPUT2	○	×	×	○	○	○	○	○
	INPUT3	○	×	×	○	○	○	○	○
	INPUT4	○	○	○	×	×	×	×	×
	INPUT5	○	○	○	×	×	×	×	×
	INPUT6	○	○	○	×	×	×	×	×
	INPUT7	○	○	○	×	×	×	×	×
	INPUT8	○	○	○	×	×	×	×	×

: Connectors provided only for ELITE models
: Connectors common to both ELITE and regular models

As there is only one digital receiver, a combination of two digital signals is not possible.
As signals input to the 3RCA and DSUB connectors are both output via the same RGB SW output, they cannot be selected in combination.
If signals that are not allowed to be selected in combination are selected, the signal for the subscreen will become that of the INPUT connector, with the number increased by 1 from the specified number.

Combinations of inputs for BANNER PIP display

The combinations of inputs when the BANNER PIP function is enabled for the Integrator menu are shown in the table below:

		Subscreen							
		INPUT1 (VIDEO)	INPUT2 (3RCA)	INPUT3 (DSUB)	INPUT4 (DVI)	INPUT5 (HDMI1)	INPUT6 (HDMI2)	INPUT7 (HDMI3)	INPUT8 (HDMI4)
Main Screen	INPUT1	–	–	○	○	○	○	○	○
	INPUT2	–	–	×	○	○	○	○	○
	INPUT3	–	–	×	○	○	○	○	○
	INPUT4	–	–	○	×	×	×	×	×
	INPUT5	–	–	○	×	×	×	×	×
	INPUT6	–	–	○	×	×	×	×	×
	INPUT7	–	–	○	×	×	×	×	×
	INPUT8	–	–	○	×	×	×	×	×

: Connectors provided only for ELITE models
: Connectors common to both ELITE and regular models

Some inputs cannot be combined for the BANNER PIP function for the same reasons as with the 2-screen display function.

Note: The inputs for which the BANNER PIP function is available are only PC signals (XGA@60 and WXGA@60) to INPUT connectors 3–8.
As a PC input is not provided for INPUT connectors 1 and 2, the BANNER PIP function is not available for those inputs.
With the combinations of inputs with ×'s in the above table, only the main screen is displayed, and a Banner screen is not displayed.
While the BANNER PIP function is activated, the 2-screen display function cannot be activated.

Reference 2

Limitations During Operation of Each Function, and Notes

During operation of input priority:
- Input priority does not function during Standby nor Power Management mode.
- Input priority does not function during 2-screen mode.
- For 4 seconds after the unit is turned on, input priority does not function (while inputs are being detected after the unit is turned on).

During operation of BANNER PIP:
- The unit does not enter 2-screen mode.
- During setting on the menu, BANNER PIP is canceled, except in some cases.

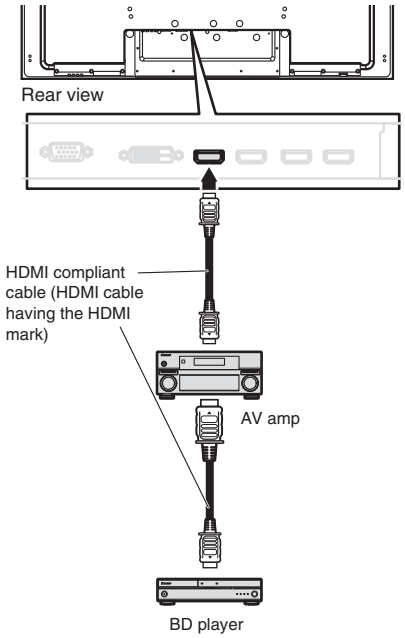
On the Integrator menu
- Upon activation of the Integrator menu, the values for the PICTURE items on the Home menu will be reset to the initial values (as the Picture Preset function is activated).
- Before activating Monotone or Studio mode, reset the Picture Preset values.

[2] CONFIRMATION ON THE KURO LINK FUNCTION

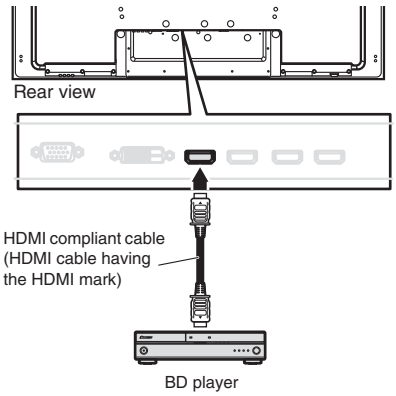
When you use the KURO LINK (HDMI-CEC) function, if the unit does not function properly, such as not being able to control or recognize connected equipment, check the following:

- **Confirmation of the manufacturer of the connected equipment**
  Check if the connected equipment was manufactured by Pioneer and if it supports the KURO LINK and HDMI Control of the conventional product function.
  If its manufacturer is not Pioneer, proper operations are not guaranteed.

- **Confirmation of connections**
  Check if the unit is connected properly, as shown in the figures below:
  (For details, refer to "Making the KURO LINK connections" in the Operating instructions.)



Example 1: When an AV amplifier that supports KURO LINK is connected



Example 2: When an AV amplifier is not connected

Check that the following conditions are met:

- The connected equipment must support the KURO LINK and HDMI Control of the conventional product function.
- The equipment must be connected to the INPUT connector that has been selected in "Input Setting" on the KURO LINK Setting menu.
- The connections must be made properly, as shown in the above figures (in a case where an AV device, such as an AV amplifier, and a DVD recorder/BD player are connected, in a case where only a DVD recorder/BD player is connected.)
- When an AV device that supports the KURO LINK function is connected, it must be connected between the PDP and a DVD recorder/BD player.
- The KURO LINK function must be activated on the connected equipment (DVD recorder, BD player, AV device [AV amplifier, etc.]). (Refer to the Operating instructions of the connected equipment.)

A

• Confirmation of the number of connected devices

Check that the number of connected devices does not exceed the maximum number for guaranteed operations.

Equipment	Maximun Number
DVD recorder	2
BD player	2
AV System	1

B

• Confirmation of settings

Check that the settings for the KURO LINK function are properly made. (For details, refer to "Setting the KURO LINK" in the Operating instructions.)

Check that the following conditions are met:

- "Input Setting" on the KURO LINK Setting menu must be set to the same input as that to which the equipment that supports the KURO LINK function is connected.
- When Power Off Control, Power-On Ready, or Hold Sound Status are to be used, their settings must be On.

C

• Confirmation of operations

Check that the KURO LINK function works properly.

(1) Connect a device that supports the KURO LINK function.

(2) Perform the procedures that are required after changing connections, which are described in "Making the KURO LINK connections" in the Operating instructions.

1 Turn on the plasma television and all the connected devices.
2 Confirm that the setting in “Input Setting” for “KURO LINK Setting” is properly entered according to the connected devices. Also confirm the KURO LINK related settings in the connected devices.
3 Switch to the HDMI input terminals to which the devices are connected to check if audio and video images are properly output and displayed.
4 Try turning off the plasma television, then turn the power back on to the plasma television.

D

(3) Perform "Power On Test" or "Power Off Test" on the KURO LINK Setting menu. (For details, refer to "Power On/Off Test" in the Operating instructions.)

E

If the following occurs even if the operation check is performed properly, a failure, such as breakage of the HDMI cable, problems on the side of the connected device, and problems with the MAIN Assy, may be suspected:

- "Power On Test" or "Power Off Test" cannot be selected (the items are grayed)
- The connected device cannot be turned on/off.

In some cases, an operation check using another HDMI input connector may be required in order to narrow down the cause.

F

[3] FUNCTION OF DECREASING THE BRIGHTNESS LEVEL

If the panel temperature becomes high or a video signal that requires activation of panel protection is input, the unit will protect the panel by decreasing the brightness level.
* While a mask is being displayed, the panel protection function will not be activated.

Protection Function Name	Purpose	Conditions	Protection Function	Remarks
High-temperature protection function 1	For protection of parts (DCF)	Panel temperature (TEMP1) reaches 65 °C.	Offsetting the ABL adjustment value	
High-temperature protection function 2	For reducing heating in the unit	Panel temperature (TEMP1) reaches 80 °C.	Limiting for the maximum number of SUS pulses	
Panel protection function 1	For preventing burn-in	A still image is displayed for 3 minutes or more.	Limiting for the maximum number of SUS pulses	The picture will be considered to be still if only the mouse cursor is moved.
Panel protection function 2	For protection of SCAN ICs	An image with which a particular load is applied to one SCAN IC is displayed. (See Fig. 2)	Limiting for the maximum number of SUS pulses	
Panel protection function 3	For protection against panel cracking	An image with which the heat of part in the panel is increased is displayed. (See Fig. 3)	Limiting for the maximum number of SUS pulses	

■ Limiting for the maximum number of SUS pulses

By gradually decreasing the limit for the maximum number of SUS pulses, the temperature of the panel will be lowered.
- The limit for the maximum number of SUS pulses will be decreased by 8 per 5 seconds.
- The lower limit for the maximum number of SUS pulses is about 700.
- The maximum number of SUS pulses will begin to increase gradually if the conditions that led to activation of the protection function return to normal.

■ ABL adjustment value offset

By gradually offsetting the ABL adjustment value, the temperature of the panel will be lowered. The number of SUS pulses, which is determined based on the input APL (average picture level), will be decreased.
- The ABL adjustment value will be offset by one step per 30 seconds.
- The ABL adjustment value will be gradually restored if conditions that let to activation of the protection function return to normal.

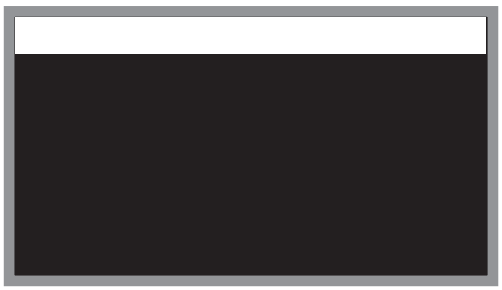


Fig. 2: Detection example: SCAN IC protection

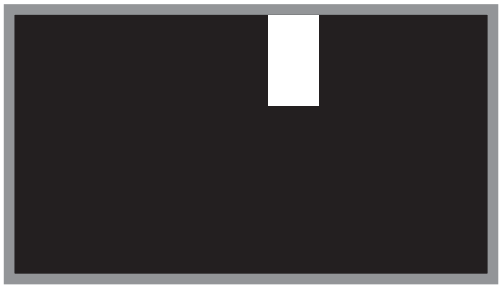


Fig. 3: Detection example: Protection against panel cracking

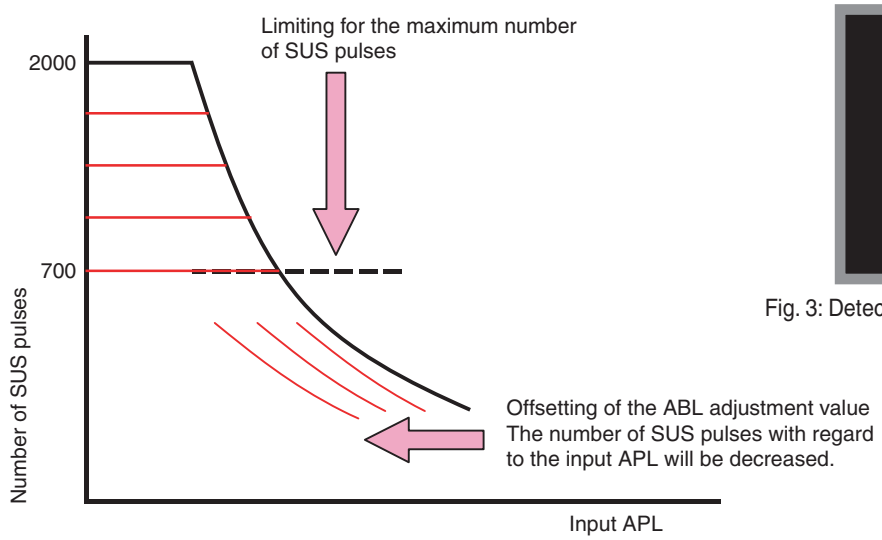


Fig. 1: Relationship between input APL and number of SUS pulses

5.6 OUTLINE OF THE OPERATION

[1] PANEL DRIVE-POWER ON/OFF FUNCTION

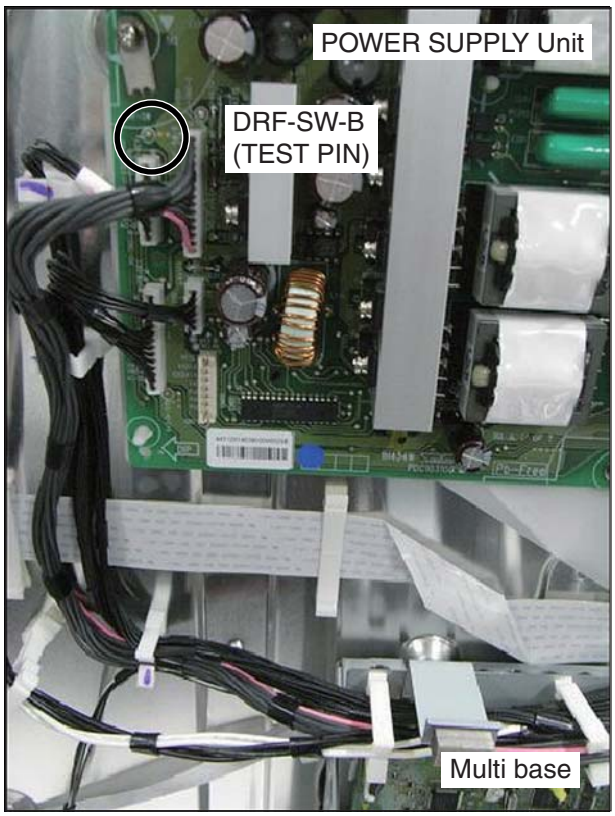
Function:
It is an operational mode where the digital signal processing performs circuit operation but the power is not supplied to the panel driving system (Vsus, VAddress) in order to avoid a power down (PD).

Application:
1. When it is necessary to check whether the signal output is correctly reaching the drive system in a repairing activity etc.
2. In the case of a PD, to determine whether the problem is with the panel drive-power supply or with the other system power supply.

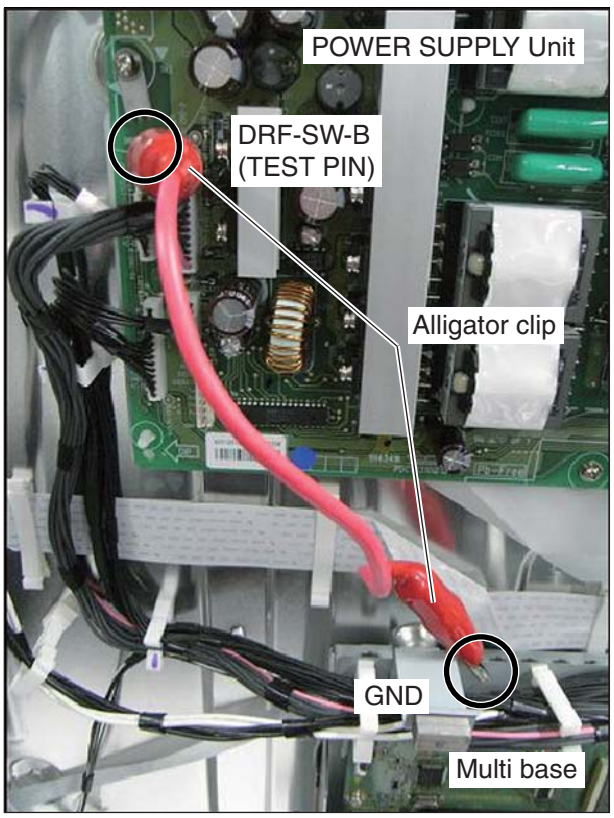
Method:
1. Short-circuit between the specified location of the POWER SUPPLY Unit and GND (Multi base section recommended), using a jumper with alligator clips (refer to the photos below).
2. Execute [DRV S00] by RS-232C command. ([DRV S01] for release)

Supplemental explanation:
- When the panel drive-power is in OFF state, there will be no PD, except PS_PD, as the PD signal has been muted.
- If the clip is removed in the OFF state of the panel drive-power, PD will take place at the instance of clip removal. Therefore, be sure to remove the clip after turning the power OFF.
- Under RS-232C command control, [DRV S01] (release) is possible during power ON. However, there is a possibility of damaging the set. Therefore, make this operation only after turning the power OFF.
- Command [DRV S00/S01] is effective even during standby.
- Setting with RS-232C commands or the remote control unit is enabled during Standby mode. However, if the unit is left unoperated for about 10 seconds in Standby mode after setting with RS-232C commands or the remote control unit is completed, the setting will become void.
- When the main power switch is set to OFF, no command is accepted.
- Setting with RS-232C commands or the remote control unit will become void if the AC power cord is unplugged, the main power switch is set to OFF, or the unit is left unoperated for about 10 seconds in Standby mode.

When the panel drive-power is ON



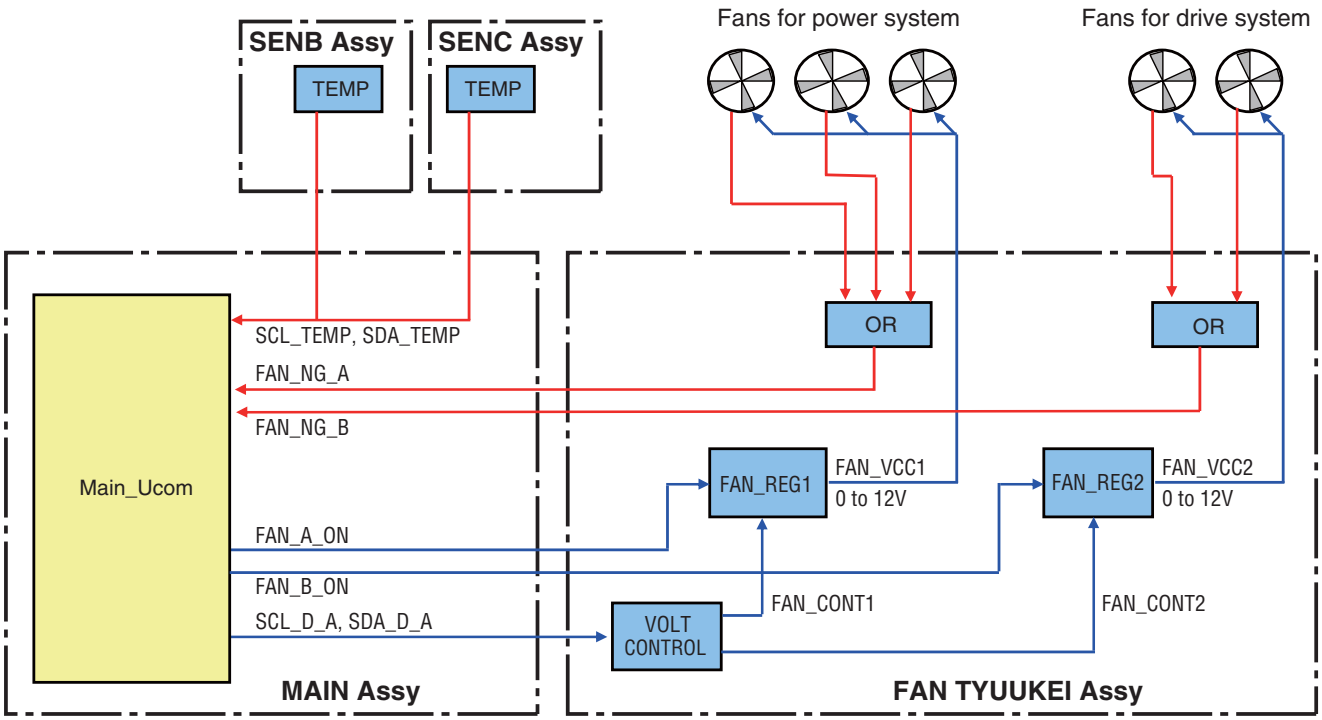
When the panel drive-power is OFF



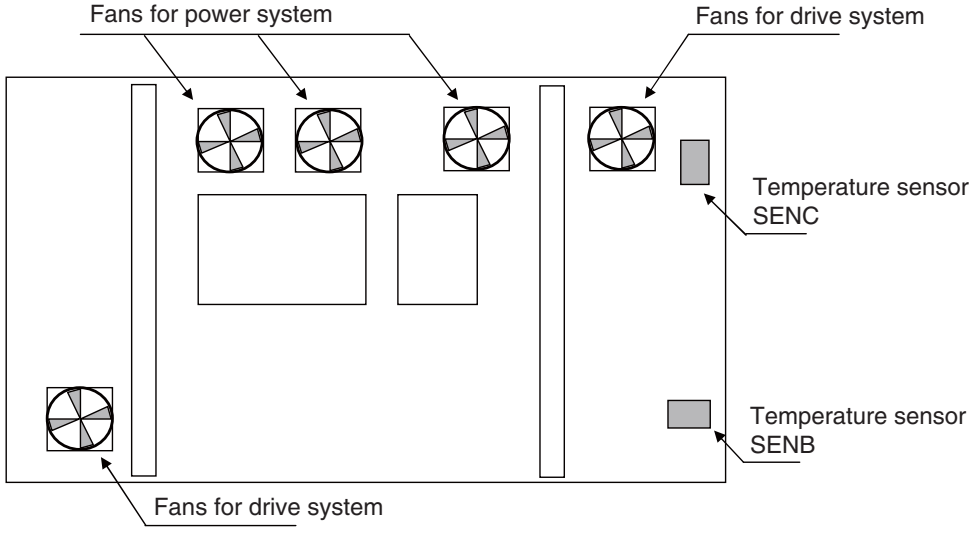
[2] SPECIFICATION OF THE FAN CONTROL

■ Block diagram

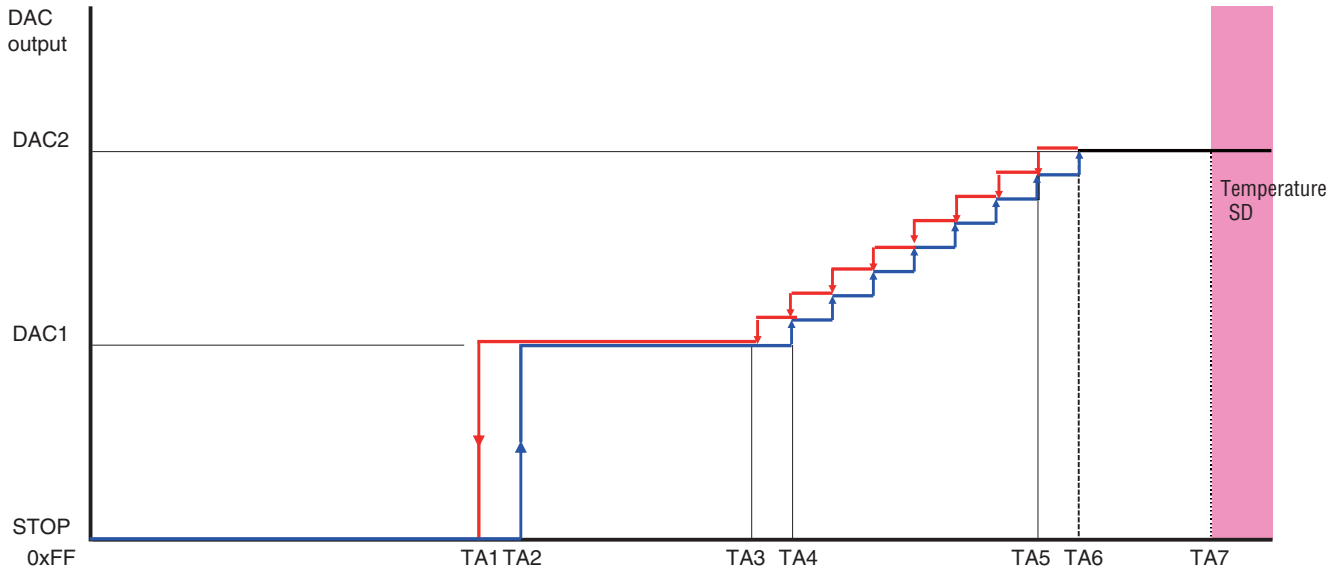
The external fans cool down the whole unit.



■ Figure of placement



■ Operation specifications



Reference temperature (°C) = Processed value of the temperature measured by the SENB temperature sensor

Inside temperature	39.0	41.0		45.0	47.0		49.0	51.0	66.0	(°C)
<Reference>										
Outside temperature	33.0	35.0		39.0	41.0		43.0	45.0	60.0	(°C)

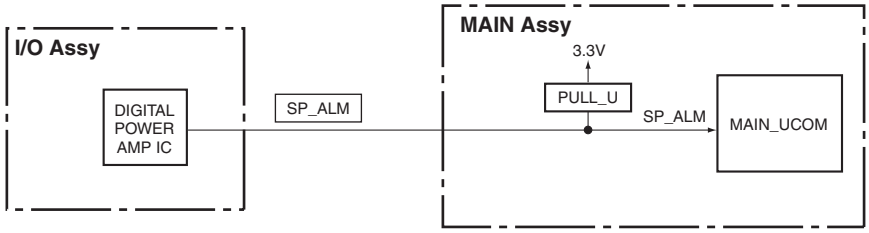
Notes:

- The operating temperature for the fan is higher than the ambient temperature, because the microcomputer reads the temperature at a sensor inside the unit.
- If a critical signal for the address circuitry is input, the fan may be activated at a temperature lower than the set temperature indicated in the above figure.
- If the voltage of the DAC output for the external fan falls, the rotation speed of the fan will become higher.
- DAC 1: Power supply block · · · · · 7.0 V
  Drive block · · · · · 6.5 V
- DAC 2: Power supply block and Drive block · · · · · 10.5 V

[3] PROCESSING IN ABNORMALITY

Abnormal speaker output

● Circuit configuration



● Specifications for port monitoring

Port Name	SD/PD Indication	Active	Monitoring conditions	Operation
SP_ALM	AUDIO	Shutdown occurs when the signal is "L." 30 mS * 3 times	RST4 = "H" (always) (Monitoring starts 2 sec after the above conditions are established.)	The main CPU operations described below will be performed when "SP_ALM: L" is detected (established) under the monitoring conditions.

● Operation specifications of the main CPU

(1) Establish the short-circuit of the speaker by the main CPU
- A warning indication is displayed 2 seconds after an abnormality occurs, then after another 3 seconds, a shutdown will be generated. (The blue LED flashes 5 times.)
- A warning indication is displayed for all input-signal types.
- Example of a warning indication: "The speaker terminals are short-circuited. After reconnection, turn the unit on again."

(2) Display conditions
When the panel is on: A warning indication is displayed immediately.
When the panel is off: A warning indication is not displayed immediately but is displayed when the panel is turned on.

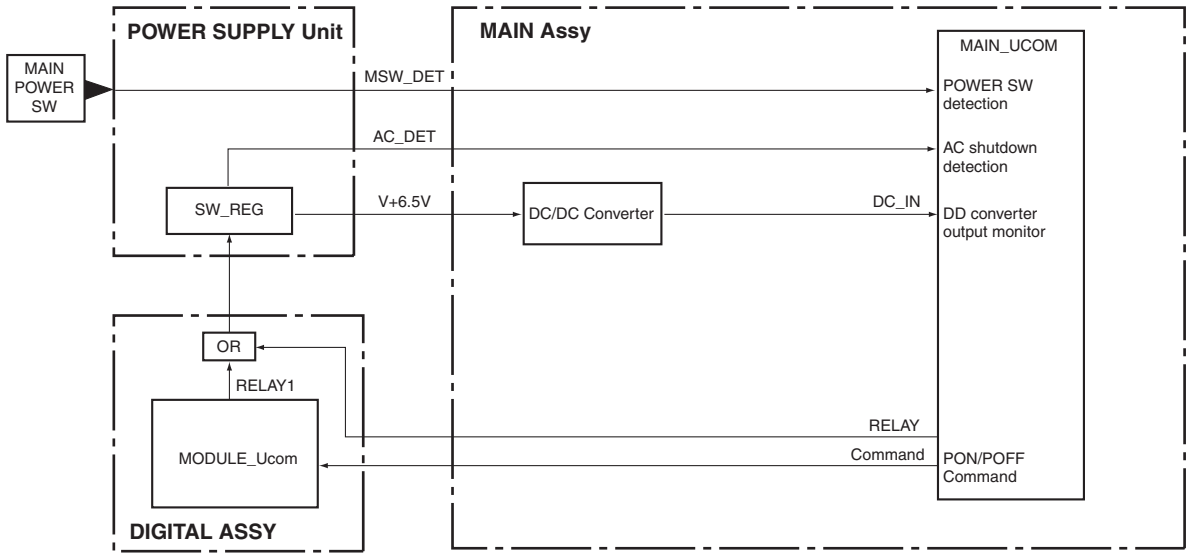
Note: A warning indication is displayed each time the panel is turned on if the conditions for a shutdown persist. A shutdown will not be generated in a case of short-circuiting of the speaker output, because Auto Protection mode is activated for the audio amp (IC3201) in such a case. If an abnormally high voltage is output from the speaker output terminals because of a failure in IC3201, etc., a shutdown will be generated.

● Conditions for resetting the circuits

The circuits will be reset upon Standby ON/OFF.

Power supply and DC-DC converter

● Circuit configuration

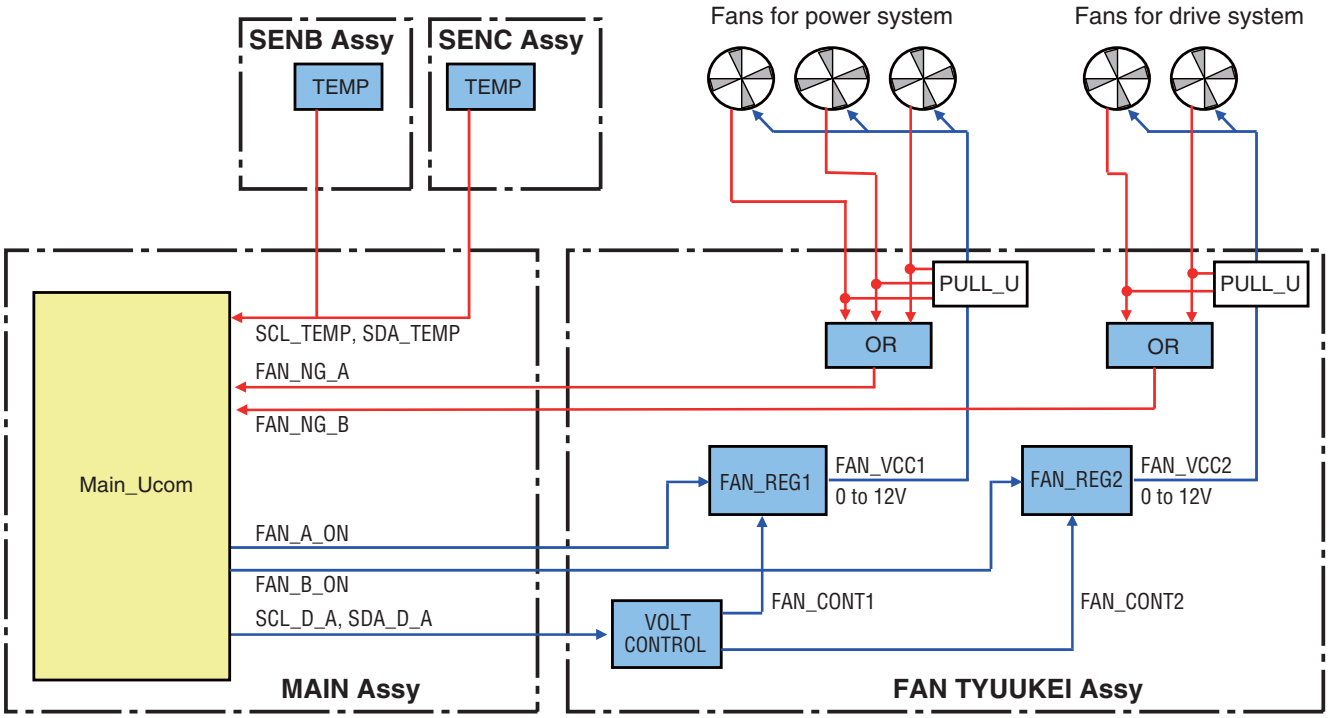


● Specifications for port monitoring

Port Name	SD/PD Indication	Determination Condition	Monitoring Conditions	Operation
DC_IN	Failure in Power	Shutdown occurs when the signal is "L." for 27 sec after Power is turned ON.	• Panel screen ON	Shutdown occurs immediately Blue LED flashes 13 times

Fan and temperature sensor

● Circuit configuration



● Specifications for port monitoring

Port Name	SD/PD Indication	Determination Condition	Monitoring Conditions	Operation
FAN_NG_A	FAN	Shutdown occurs when the signal is "H."	FAN_A_ON: H (Monitoring starts 35 sec after the conditions are established.)	Shutdown occurs after the warning indication is displayed for 10 sec. Blue LED flashes 10 times
FAN_NG_B	FAN	Shutdown occurs when the signal is "H."	FAN_B_ON: H (Monitoring starts 35 sec after the conditions are established.)	
TEMP	Unit is high temperature	Shutdown occurs when the value is more than setting value.	Panel screen ON	Shutdown occurs after the warning indication is displayed for 10 sec. Blue LED flashes 11 times
TMP_NG	Panel temperature is high	Shutdown occurs when the value is more than setting value.	Panel screen ON	Shutdown occurs after waiting for 30 sec. Blue LED flashes 4 times
	Panel temperature is low		Panel screen ON	Shutdown occurs immediately Blue LED flashes 4 times

5.7 OUTLINE OF RS-232C AND IP COMMANDS

[1] PREPARED TOOLS

To use RS-232C commands, it is necessary to prepare the following items:
- PC
- Application for control
- 232C cable (straight)

Notes:
The setting of the Com port cannot be communicated if it doesn't do correctly.
(Please follow a set explanation of PC in the Com port)

To use IP control commands, it is necessary to prepare the following items:
- PC
- Application for control: Internet explorer
- LAN cable (straight)

Notes:
- A PC with Windows 98 series/Me or Windows operating systems other than those for Japan installed may not operate properly.
- Perform the IP control settings after selecting HOME MENU, Control Setup, then IP Control Setting, in that order.
- The PC must be set for network connection.

[2] COMMAND PROTOCOL

■ Communication Protocol

[Communication protocol between external control equipment and Main microcomputer]

Item	Setting	Remarks
Communication method	Asynchronous transfer (asynchronous communication)	
Start bit	1 bit	
Data bit	8 bit (LSB First)	
Parity	None	
Stop bit	1 bit	
Baud rate	Select 1200/2400/4800/9600/19200/38400	According to setting of HOME MENU - Control Setup - Baud Rate

5.8 LIST OF RS-232C AND IP COMMANDS

RS-232C commands can be used in Service Factory mode. Before using RS-232C commands, it is necessary to change the factory presetting.
See "5.7 OUTLINE OF RS-232C COMMAND".
[Note ; If you want to see version infomation (ex. QS1, QSE, Factory, Menu), Please see 10 seconds after starting.]

■ RS-232C and IP commands list

Command Name		Function	Effective only in Factory Mode	Adjustment Range		Initial Value	Last Memory	Active U-com		Applicable Model	
				Min.	Max.			MTB	MDU	PRO-141FD PRO-101FD	KRP-600M KRP-500M
A											
ABL	***	For adjusting the upper limit of the power (ABL)	●	000	255	128	MOD	–	●	●	●
ACL	S00	For setting the ACL adjustment to OFF		–	–	–	MAIN	●	–	●	●
	S01	For setting the ACL adjustment to ON		–	–	–	MAIN	●	–	●	●
ACL		For sending back the current ACL adjustment setting value		–	–	–	–	●	–	●	●
AIN	S11	For outputting the audio signal of AUDIO INPUT 1 when INPUT 1 is selected		–	–	–	MAIN	●	–	–	●
	S12	For outputting the audio signal of AUDIO INPUT 1 when INPUT 2 is selected		–	–	–	MAIN	●	–	–	●
	S13	For outputting the audio signal of AUDIO INPUT 1 when INPUT 3 is selected		–	–	–	MAIN	●	–	–	●
	S14	For outputting the audio signal of AUDIO INPUT 1 when INPUT 4 is selected		–	–	–	MAIN	●	–	–	●
	S15	For outputting the audio signal of AUDIO INPUT 1 when INPUT 5 is selected		–	–	–	MAIN	●	–	–	●
	S16	For outputting the audio signal of AUDIO INPUT 1 when INPUT 6 is selected		–	–	–	MAIN	●	–	–	●
	S21	For outputting the audio signal of AUDIO INPUT 2 when INPUT 1 is selected		–	–	–	MAIN	●	–	–	●
	S22	For outputting the audio signal of AUDIO INPUT 2 when INPUT 2 is selected		–	–	–	MAIN	●	–	–	●
	S23	For outputting the audio signal of AUDIO INPUT 2 when INPUT 3 is selected		–	–	–	MAIN	●	–	–	●
	S24	For outputting the audio signal of AUDIO INPUT 2 when INPUT 4 is selected		–	–	–	MAIN	●	–	–	●
	S25	For outputting the audio signal of AUDIO INPUT 2 when INPUT 5 is selected		–	–	–	MAIN	●	–	–	●
	S26	For outputting the audio signal of AUDIO INPUT 2 when INPUT 6 is selected		–	–	–	MAIN	●	–	–	●
AJA	S01	For automatic WB adjustment for VDEC	●	–	–	–	MAIN	●	–	●	●
	S03	For automatic WB adjustment for A/D (PC)	●	–	–	–	MAIN	●	–	●	●
	S04	For automatic WB adjustment for A/D (color difference)	●	–	–	–	MAIN	●	–	●	●
AMT	S00	For setting audio muting off		–	–	–	–	●	–	–	●
	S01	For setting audio muting on		–	–	–	–	●	–	–	●
AMK	S00	For turning off the ARIA TEST pattern	●	–	–	–	–	●	–	●	●
	S01	For displaying the ARIA TEST pattern ①	●	–	–	–	–	●	–	●	●
	S02	For displaying the ARIA TEST pattern ②	●	–	–	–	–	●	–	●	●
AP0	S**	ADDRESS L1, L2 setting	●	–	–	–	MOD	–	–	●	–
AP1	S**	ADDRESS L3, L4 setting	●	–	–	–	MOD	–	–	●	–
AP2	S**	ADDRESS U1, U2 setting	●	–	–	–	MOD	–	–	●	–
AP3	S**	ADDRESS U3, U4 setting	●	–	–	–	MOD	–	–	●	–
APN	***	1V average pulse number setting	●	–	–	–	MOD	–	–	●	–
AST		For executing automatic setup		–	–	–	MAIN	●	–	●	●
AUS	S01	For setting the audio source to be displayed on the main		–	–	–	MAIN	●	–	–	●
	S02	For setting the audio source to be displayed on the sub		–	–	–	MAIN	●	–	–	●
AVS		For sending back the current AV selection setting value		–	–	–	–	●	–	●	●
	S01	AV selection: STANDARD		–	–	–	MAIN	●	–	●	●
	S02	AV selection: DYNAMIC		–	–	–	MAIN	●	–	●	●
	S03	AV selection: MOVIE		–	–	–	MAIN	●	–	●	●
	S04	AV selection: GAME		–	–	–	MAIN	●	–	●	●
	S05	AV selection: SPORT		–	–	–	MAIN	●	–	●	●
	S06	AV selection: PURE (Director)		–	–	–	MAIN	●	–	●	●
	S07	AV selection: USER		–	–	–	MAIN	●	–	●	●
	S08	AV selection: ISF-Day		–	–	–	MAIN	●	–	●	●
	S09	AV selection: ISF-Night		–	–	–	MAIN	●	–	●	●
	S10	AV selection: Living (OPTIMUM)		–	–	–	MAIN	●	–	●	●
	S11	AV selection: ISF-Auto		–	–	–	MAIN	●	–	●	●
B											
BAL	***	For adjusting audio balance		000	060	030	MAIN	●	–	–	●
		For sending back the current audio balance adjustment value		–	–	–	–	●	–	–	●
BAS	***	For bass adjustment		000	015	008	MAIN	●	–	–	●
		For sending back the current bass adjustment value		–	–	–	–	●	–	–	●
BCP		Copying the backup data in the EEPROM	●	–	–	–	MOD	–	●	–	–
BSM	S00	After image/Burning safe mode: OFF		–	–	–	–	–	●	–	–
	S01	After image/Burning safe mode: ON		–	–	–	–	–	●	–	–
BHI	***	For adjusting B HIGH (VIDEO signal) For adjusting Blue (PC signal)		000(video) 000(PC)	120(video) 60(PC)	60(video) 30(PC)	MAIN	●	–	●	●

Command Name		Function	Effective only in Factory Mode	Adjustment Range		Initial Value	Last Memory	Active U-com		Applicable Model	
				Min.	Max.			MTB	MDU	PRO-141FD PRO-101FD	KRP-600M KRP-500M
BHI		For sending back the adjustment value of B HIGH (VIDEO signal) For sending back the adjustment value of Blue (PC signal)		–	–	–	MAIN	●	–	●	●
BLK	S00	For disabling black stretch adjustment		–	–	–	MAIN	●	–	●	●
	S01	For enabling black stretch adjustment		–	–	–	MAIN	●	–	●	●
		For sending back the current black stretch adjustment value		–	–	–	MAIN	●	–	●	●
BLW	***	For adjusting B LOW		000	120	060	MAIN	●	–	●	●
		For sending back the adjustment value of B Low		–	–	–	MAIN	●	–	●	●
BNR	S00	Block NR Off		–	–	–	MAIN	●	–	●	●
	S01	Block NR On		–	–	–	MAIN	●	–	●	●
		For sending back the current block NR value		–	–	–	MAIN	●	–	●	●
BOM	S00	For setting Blue Only mode to OFF		–	–	–	MAIN	●	–	●	●
	S01	For setting Blue Only mode to ON		–	–	–	MAIN	●	–	●	●
BPI	S03	For setting the INPUT 3 signal as the input signal for the BANNER PinP.		–	–	–	MAIN	●	–	●	●
	S04	For setting the INPUT 4 signal as the input signal for the BANNER PinP.		–	–	–	MAIN	●	–	●	●
	S05	For setting the INPUT 5 signal as the input signal for the BANNER PinP.		–	–	–	MAIN	●	–	●	●
	S06	For setting the INPUT 6 signal as the input signal for the BANNER PinP.		–	–	–	MAIN	●	–	●	●
BPP	S00	For setting BANNER PinP to OFF		–	–	–	MAIN	●	–	●	●
	S01	For setting BANNER PinP to TOP-3		–	–	–	MAIN	●	–	●	●
	S02	For setting BANNER PinP to MID-HIGH		–	–	–	MAIN	●	–	●	●
	S03	For setting BANNER PinP to MID-LOW		–	–	–	MAIN	●	–	●	●
	S04	For setting BANNER PinP to BOTTOM-3		–	–	–	MAIN	●	–	●	●
	S05	For setting BANNER PinP to TOP-2		–	–	–	MAIN	●	–	●	●
	S06	For setting BANNER PinP to BOTTOM-2		–	–	–	MAIN	●	–	●	●
	S07	For setting BANNER PinP to TOP-1		–	–	–	MAIN	●	–	●	●
	S08	For setting BANNER PinP to BOTTOM-1		–	–	–	MAIN	●	–	●	●
BRA	S01	For setting UART to 232C (1200BPS)		–	–	–	MAIN	●	–	●	●
	S02	For setting UART to 232C (2400BPS)		–	–	–	MAIN	●	–	●	●
	S03	For setting UART to 232C (4800BPS)		–	–	–	MAIN	●	–	●	●
	S04	For setting UART to 232C (9600BPS)		–	–	–	MAIN	●	–	●	●
	S05	For setting UART to 232C (19200BPS)		–	–	–	MAIN	●	–	●	●
	S06	For setting UART to 232C (38400BPS)		–	–	–	MAIN	●	–	●	●
		For obtaining the current baud rate value		–	–	–	–	●	–	●	●
BRT	***	For adjusting brightness		000	120	060	MAIN	●	–	●	●
		For sending back the current brightness adjustment value		–	–	–	MAIN	●	–	●	●
C											
CBU		Clearing backup data of EEPROM	●	–	–	–	MOD	–	●	–	–
CDE	S21	For setting Color Decoding for the INPUT 2 to Component 1		–	–	–	MAIN	●	–	●	●
	S22	For setting Color Decoding for the INPUT 2 to Component 2		–	–	–	MAIN	●	–	●	●
	S31	For setting Color Decoding for the INPUT 3 to Component 1		–	–	–	MAIN	●	–	●	●
	S32	For setting Color Decoding for the INPUT 3 to Component 2		–	–	–	MAIN	●	–	●	●
	S33	For setting Color Decoding for the INPUT 3 to RGB		–	–	–	MAIN	●	–	●	●
CFR	***	For adjusting the clock (PLL frequency)		000	120	240	MAIN	●	–	●	●
CGB	***	For adjusting color details for blue		000	060	030	MAIN	●	–	●	●
CGC	***	For adjusting color details for cyan		000	060	030	MAIN	●	–	●	●
CGG	***	For adjusting color details for green		000	060	030	MAIN	●	–	●	●
CGM	***	For adjusting color details for magenta		000	060	030	MAIN	●	–	●	●
CGR	***	For adjusting color details for red		000	060	030	MAIN	●	–	●	●
CGY	***	For adjusting color details for yellow		000	060	030	MAIN	●	–	●	●
CHM		Clearing data of the hour meter	●	–	–	–	MOD	–	●	–	–
CLM	S00	For setting Studio mode (previously termed “Color mode”) to OFF (previously termed “Normal”)		–	–	–	MAIN	●	–	●	●
	S01	For setting Studio mode (previously termed “Color mode”) to ON (previously termed “Studio”)		–	–	–	MAIN	●	–	●	●
CLS	S01	For setting the color system to AUTO		–	–	–	MAIN	●	–	●	●
	S02	For setting the color system to NTSC		–	–	–	MAIN	●	–	●	●
	S03	For setting the color system to PAL		–	–	–	MAIN	●	–	●	●
	S04	For setting the color system to SECAM		–	–	–	MAIN	●	–	●	●
	S05	For setting the color system to 4.43NTSC		–	–	–	MAIN	●	–	●	●
	S06	For setting the color system to PAL M		–	–	–	MAIN	●	–	●	●
	S07	For setting the color system to PAL N		–	–	–	MAIN	●	–	●	●
		For acquiring the data on the current color system		–	–	–	–	●	–	●	●

Command Name		Function	Effective only in Factory Mode	Adjustment Range		Initial Value	Last Memory	Active U-com		Applicable Model	
				Min.	Max.			MTB	MDU	PRO-141FD PRO-101FD	KRP-600M KRP-500M
CMT		Clearing data of the maximum temperature	●	–	–	–	MOD	–	●	–	–
CNT	***	For adjusting contrast		000	060	040	MAIN	●	–	●	●
COL	***	For adjusting color		000	060	120	MAIN	●	–	●	●
		For sending back the current color adjustment value		–	–	–	–	●	–	●	●
CPC		Clearing power-on count data	●	–	–	–	MOD	–	●	–	–
CPD		Clearing power-down histrory	●	–	–	–	MOD	–	●	–	–
CPH	***	For adjusting phase (PLL phase)		000	032	063	MAIN	●	–	●	●
CPM		Clearing data of the pulse meter	●	–	–	–	MOD	–	●	–	–
CSD		Clearing shutdown history of Panel side	●	–	–	–	MOD	–	●	–	–
CSF	S00	Color sensor function OFF		–	–	–	–	–	●	–	–
	S01	Color sensor function ON		–	–	–	–	–	●	–	–
CSM	S01	Color Space 1: Pioneer's original (panel characteristics)		–	–	–	MAIN	●	–	●	●
	S02	Color Space 2: In compliance with EBU standards		–	–	–	MAIN	●	–	●	●
		For sending back the data on the current color space		–	–	–	MAIN	●	–	●	●
CSB	***	Blue coefficient of color sensor	●	–	–	–	MOD	–	●	–	–
CSG	***	Green coefficient of color sensor	●	–	–	–	MOD	–	●	–	–
CSR	***	Red coefficient of color sensor	●	–	–	–	MOD	–	●	–	–
CTI	S00	Color temperature setting: For setting CTI to OFF		–	–	–	MAIN	●	–	●	●
	S01	Color temperature setting: For setting CTI to ON		–	–	–	MAIN	●	–	●	●
		Color temperature setting: For sending back the data on the current CTI		–	–	–	MAIN	●	–	●	●
CTP	S01	For setting color temperature to LOW		–	–	–	MAIN	●	–	●	●
	S02	For setting color temperature to MID LOW		–	–	–	MAIN	●	–	●	●
	S03	For setting color temperature to MIDDLE		–	–	–	MAIN	●	–	●	●
	S04	For setting color temperature to MID HIGH		–	–	–	MAIN	●	–	●	●
	S05	For setting color temperature to HIGH		–	–	–	MAIN	●	–	●	●
	S06	For setting color temperature to MANUAL		–	–	–	MAIN	●	–	●	●
		For acquiring the data on the current color temperature		–	–	–	–	●	–	●	●
D											
DIT	S01	For displaying DISPLAY CALL 1		–	–	–	–	●	–	●	●
	S02	For displaying DISPLAY CALL 2		–	–	–	–	●	–	●	●
DIP		For setting the IP address in the main microcomputer	●	–	–	–	MAIN	●	–	●	●
DIZ	S00	Dither/L dither OFF & noise OFF	●	–	–	–	–	–	●	–	–
	S01	Dither/L dither ON & noise ON	●	–	–	–	–	–	●	–	–
	S02	Dither/L dither OFF & noise ON	●	–	–	–	–	–	●	–	–
	S03	Dither/L dither ON & noise OFF	●	–	–	–	–	–	●	–	–
DOF		For turning off the currently displayed on-screen display		–	–	–	–	●	–	●	●
DRP	S00	For setting DRE Picture to Off		–	–	–	MAIN	●	–	●	●
	S01	For setting DRE Picture to Low		–	–	–	MAIN	●	–	●	●
	S02	For setting DRE Picture to Mid		–	–	–	MAIN	●	–	●	●
	S03	For setting DRE Picture to High		–	–	–	MAIN	●	–	●	●
		For sending back the data on the current DRE Picture		–	–	–	–	●	–	●	●
DRV	S00	For turning off the drive system power		–	–	–	–	–	●	–	–
	S01	For turning on the drive system power		–	–	–	–	–	●	–	–
DW0		For decreasing the adjustment value by 10		–	–	–	MAIN	●	–	●	●
DWF		For setting the adjustment value to minimum		–	–	–	MAIN	●	–	●	●
DWn		For decreasing the adjustment value by n (n = 1 to 9)		–	–	–	MAIN	●	–	●	●
DYC	S00	For setting 3DYC to OFF		–	–	–	MAIN	●	–	●	●
	S01	For setting 3DYC to LOW		–	–	–	MAIN	●	–	●	●
	S02	For setting 3DYC to MID		–	–	–	MAIN	●	–	●	●
	S03	For setting 3DYC to HIGH		–	–	–	MAIN	●	–	●	●
		For sending back the current 3DYC setting		–	–	–	–	●	–	●	●
E											
ENH	S01	For setting Enhancer to 1		–	–	–	MAIN	●	–	●	●
	S02	For setting Enhancer to 2		–	–	–	MAIN	●	–	●	●
	S03	For setting Enhancer to 3		–	–	–	MAIN	●	–	●	●
		For sending back the data on the current Enhancer setting		–	–	–	–	●	–	●	●
ESV	S00	For setting power-save to the reference setting		–	–	–	MAIN	●	–	●	●
	S01	For setting power-save to Mode 1 (power saving 1)		–	–	–	MAIN	●	–	●	●
	S02	For setting power-save to Mode 2 (power saving 2)		–	–	–	MAIN	●	–	●	●
	S05	For setting power-save to Video Muting		–	–	–	MAIN	●	–	●	●
		For acquiring the data on the current power-saving setting		–	–	–	–	●	–	●	●

Command Name		Function	Effective only in Factory Mode	Adjustment Range		Initial Value	Last Memory	Active U-com		Applicable Model	
				Min.	Max.			MTB	MDU	PRO-141FD PRO-101FD	KRP-600M KRP-500M
F											
FAJ		Determining the flag of the DIGITAL Assy adjustment in "adjustment is completed"	●	–	–	–	MOD	–	●	●	●
FAN		For setting Factory mode to OFF	●	–	–	–	MAIN/MOD	●	●	–	–
FAY		For setting Factory mode to ON		–	–	–	MAIN/MOD	●	●	●	●
FBM	S00	OFF (In-phase SUS drive prohibition)	●	–	–	–	MOD	–	●	–	–
	S01	MODE1 (In-phase SUS drive permission)	●	–	–	–	MOD	–	●	–	–
FCL		For acquiring the data on the current functional lock setting		–	–	–	–	●	–	●	●
	S00	FCLS00: For canceling the functional lock.		–	–	–	MAIN	●	–	●	●
	S01	FCLS01: For prohibiting of the button operation of the main unit.		–	–	–	MAIN	●	–	●	●
	S02	FCLS02: For prohibiting of the button operation of the remote control.		–	–	–	MAIN	●	–	●	●
	S03	FCLS03: For prohibiting of the button operation of the main unit and remote control.		–	–	–	MAIN	●	–	●	●
FCM		For maximizing fan-rotation control by the integrator		–	–	–	MAIN	●	–	●	●
FDT		For executing the default setting for the integrator		–	–	–	–	●	–	●	●
FFM	S01	Drive mode: 1 (Standard)		–	–	–	MAIN	●	–	●	●
	S02	Drive mode: 2 (Cinema)		–	–	–	MAIN	●	–	●	●
	S03	Drive mode: 3 (Text)		–	–	–	MAIN	●	–	●	●
		For sending back the data on the current Drive mode setting		–	–	–	–	●	–	●	●
FNR	S00	Field NR setting: For setting FNR to OFF		–	–	–	MAIN	●	–	●	●
	S01	Field NR setting: For setting FNR to LOW		–	–	–	MAIN	●	–	●	●
	S02	Field NR setting: For setting FNR to MID		–	–	–	MAIN	●	–	●	●
	S03	Field NR setting: For setting FNR to HIGH		–	–	–	MAIN	●	–	●	●
		Field NR setting: For sending back the data on the current FNR setting		–	–	–	–	●	–	●	●
FRC	S00	For resetting FRC to default (synchronous)		–	–	–	MAIN	●	–	●	●
	S01	For setting FRC to Sync (asynchronous)		–	–	–	MAIN	●	–	●	●
FST	S81	For setting the destination to 50 Elite model (for North America)		–	–	–	MAIN	●	–	●	●
	S82	For setting the destination to 60 Elite model (for North America)		–	–	–	MAIN	●	–	●	●
	S91	For setting the destination to 50 Pioneer model (for Europe and General)		–	–	–	MAIN	●	–	–	●
	S92	For setting the destination to 60 Pioneer model (for Europe and General)		–	–	–	MAIN	●	–	–	●
	S93	For setting the destination to 50 Pioneer model (for Japan)		–	–	–	MAIN	●	–	–	●
	S94	For setting the destination to 60 Pioneer model (for Japan)		–	–	–	MAIN	●	–	–	●
	S95	For setting the destination to 50 Pioneer model (for North America)		–	–	–	MAIN	●	–	–	●
	S96	For setting the destination to 60 Pioneer model (for North America)		–	–	–	MAIN	●	–	–	●
		For sending back the data on the current destination		–	–	–	–	●	–	●	●
G											
GCP	S00	For setting the Game Control Pref setting to OFF		–	–	–	MAIN	●	–	●	●
	S01	For setting the Game Control Pref setting to ON		–	–	–	MAIN	●	–	●	●
GHI	***	For adjustment G HIGH (VIDEO signal) For adjustment Green (PC signal)		000(video) 000(PC)	120(video) 60(PC)	60(video) 30(PC)	MAIN	●	–	●	●
		For sending back the adjustment value of G HIGH (VIDEO signal) For sending back the adjustment value of Green (PC signal)		–	–	–	–	●	–	●	●
GLW	***	For adjustment G Low		000	120	060	MAIN	●	–	●	●
GMM	S01	For setting gradation (GAMMA) to 1		–	–	–	MAIN	●	–	●	●
	S02	For setting gradation (GAMMA) to 2		–	–	–	MAIN	●	–	●	●
	S03	For setting gradation (GAMMA) to 3		–	–	–	MAIN	●	–	●	●
	S04	For setting gradation (GAMMA) to 4		–	–	–	MAIN	●	–	●	●
	S05	For setting gradation (GAMMA) to 5		–	–	–	MAIN	●	–	●	●
		For acquiring the data on the current gradation setting		–	–	–	–	●	–	●	●
H											
HAV	S00	For disabling the HDMI-HD AV converter		–	–	–	MAIN	●	–	●	●
	S01	For enabling the HDMI-HD AV converter		–	–	–	MAIN	●	–	●	●
HCS	S00	For disabling HDMI control		–	–	–	MAIN	●	–	●	●
	S05	For enabling HDMI control of the equipment connected to INPUT 5		–	–	–	MAIN	●	–	●	●
	S06	For enabling HDMI control of the equipment connected to INPUT 6		–	–	–	MAIN	●	–	●	●
HDT	S41	For setting the signal type for INPUT 4 to Video		–	–	–	MAIN	●	–	●	●
	S42	For setting the signal type for INPUT 4 to PC		–	–	–	MAIN	●	–	●	●
	S51	For setting the signal type for INPUT 5 to Video		–	–	–	MAIN	●	–	●	●
	S52	For setting the signal type for INPUT 5 to PC		–	–	–	MAIN	●	–	●	●
	S61	For setting the signal type for INPUT 6 to Video		–	–	–	MAIN	●	–	●	●
	S62	For setting the signal type for INPUT 6 to PC		–	–	–	MAIN	●	–	●	●

Command Name		Function	Effective only in Factory Mode	Adjustment Range		Initial Value	Last Memory	Active U-com		Applicable Model	
				Min.	Max.			MTB	MDU	PRO-141FD PRO-101FD	KRP-600M KRP-500M
HDV	S40	For setting the Video (DVI, HDMI) setting for the INPUT 4 to Auto		–	–	–	MAIN	●	–	●	●
	S41	For setting the Video (DVI, HDMI) setting for the INPUT 4 to Color1		–	–	–	MAIN	●	–	●	●
	S42	For setting the Video (DVI, HDMI) setting for the INPUT 4 to Color2		–	–	–	MAIN	●	–	●	●
	S43	For setting the Video (DVI, HDMI) setting for the INPUT 4 to Color3		–	–	–	MAIN	●	–	●	●
	S44	For setting the Video (DVI, HDMI) setting for the INPUT 4 to Color4		–	–	–	MAIN	●	–	●	●
	S50	For setting the Video (DVI, HDMI) setting for the INPUT 5 to Auto		–	–	–	MAIN	●	–	●	●
	S51	For setting the Video (DVI, HDMI) setting for the INPUT 5 to Color1		–	–	–	MAIN	●	–	●	●
	S52	For setting the Video (DVI, HDMI) setting for the INPUT 5 to Color2		–	–	–	MAIN	●	–	●	●
	S53	For setting the Video (DVI, HDMI) setting for the INPUT 5 to Color3		–	–	–	MAIN	●	–	●	●
	S54	For setting the Video (DVI, HDMI) setting for the INPUT 5 to Color4		–	–	–	MAIN	●	–	●	●
	S60	For setting the Video (DVI, HDMI) setting for the INPUT 6 to Auto		–	–	–	MAIN	●	–	●	●
	S61	For setting the Video (DVI, HDMI) setting for the INPUT 6 to Color1		–	–	–	MAIN	●	–	●	●
	S62	For setting the Video (DVI, HDMI) setting for the INPUT 6 to Color2		–	–	–	MAIN	●	–	●	●
	S63	For setting the Video (DVI, HDMI) setting for the INPUT 6 to Color3		–	–	–	MAIN	●	–	●	●
	S64	For setting the Video (DVI, HDMI) setting for the INPUT 6 to Color4		–	–	–	MAIN	●	–	●	●
HMD		For acquiring the data of the hour meter for module management	●	–	–	–	MAIN	●	–	●	●
HPS	***	For adjusting the horizontal position		000	240(PC) 020(moving picture)	240(PC) 010(moving picture)	MAIN	●	–	●	●
HSS	S00	For setting the HDMI-Hold sound status to Off		–	–	–	MAIN	●	–	●	●
	S01	For setting the HDMI-Hold sound status to On		–	–	–	MAIN	●	–	●	●
I											
IDC		For clearing the ID data		–	–	–	MAIN	●	–	●	●
IDS		For setting the ID data		–	–	–	MAIN	●	–	●	●
INN	S10	For setting the input indication for the INPUT 1 to Video		–	–	–	MAIN	●	–	●	●
	S11	For setting the input indication for the INPUT 1 to Blu-Ray		–	–	–	MAIN	●	–	●	●
	S12	For setting the input indication for the INPUT 1 to DVD		–	–	–	MAIN	●	–	●	●
	S13	For setting the input indication for the INPUT 1 to DVR		–	–	–	MAIN	●	–	●	●
	S14	For setting the input indication for the INPUT 1 to VCR		–	–	–	MAIN	●	–	●	●
	S15	For setting the input indication for the INPUT 1 to Cable		–	–	–	MAIN	●	–	●	●
	S16	For setting the input indication for the INPUT 1 to Satelite		–	–	–	MAIN	●	–	●	●
	S17	For setting the input indication for the INPUT 1 to GAME		–	–	–	MAIN	●	–	●	●
	S18	For setting the input indication for the INPUT 1 to Computer		–	–	–	MAIN	●	–	●	●
	S20	For setting the input indication for the INPUT 2 to Component		–	–	–	MAIN	●	–	●	●
	S21	For setting the input indication for the INPUT 2 to Blu-Ray		–	–	–	MAIN	●	–	●	●
	S22	For setting the input indication for the INPUT 2 to DVD		–	–	–	MAIN	●	–	●	●
	S23	For setting the input indication for the INPUT 2 to DVR		–	–	–	MAIN	●	–	●	●
	S24	For setting the input indication for the INPUT 2 to VCR		–	–	–	MAIN	●	–	●	●
	S25	For setting the input indication for the INPUT 2 to Cable		–	–	–	MAIN	●	–	●	●
	S26	For setting the input indication for the INPUT 2 to Satelite		–	–	–	MAIN	●	–	●	●
	S27	For setting the input indication for the INPUT 2 to GAME		–	–	–	MAIN	●	–	●	●
	S28	For setting the input indication for the INPUT 2 to Computer		–	–	–	MAIN	●	–	●	●
	S30	For setting the input indication for the INPUT 3 to D-SUB15		–	–	–	MAIN	●	–	●	●
	S31	For setting the input indication for the INPUT 3 to Blu-Ray		–	–	–	MAIN	●	–	●	●
	S32	For setting the input indication for the INPUT 3 to DVD		–	–	–	MAIN	●	–	●	●
	S33	For setting the input indication for the INPUT 3 to DVR		–	–	–	MAIN	●	–	●	●
	S34	For setting the input indication for the INPUT 3 to VCR		–	–	–	MAIN	●	–	●	●
	S35	For setting the input indication for the INPUT 3 to Cable		–	–	–	MAIN	●	–	●	●
	S36	For setting the input indication for the INPUT 3 to Satelite		–	–	–	MAIN	●	–	●	●
	S37	For setting the input indication for the INPUT 3 to GAME		–	–	–	MAIN	●	–	●	●
	S38	For setting the input indication for the INPUT 3 to Computer		–	–	–	MAIN	●	–	●	●
	S40	For setting the input indication for the INPUT 4 to DVI		–	–	–	MAIN	●	–	●	●
	S41	For setting the input indication for the INPUT 4 to Blu-Ray		–	–	–	MAIN	●	–	●	●
	S42	For setting the input indication for the INPUT 4 to DVD		–	–	–	MAIN	●	–	●	●
	S43	For setting the input indication for the INPUT 4 to DVR		–	–	–	MAIN	●	–	●	●
	S44	For setting the input indication for the INPUT 4 to VCR		–	–	–	MAIN	●	–	●	●
	S45	For setting the input indication for the INPUT 4 to Cable		–	–	–	MAIN	●	–	●	●
	S46	For setting the input indication for the INPUT 4 to Satelite		–	–	–	MAIN	●	–	●	●
	S47	For setting the input indication for the INPUT 4 to GAME		–	–	–	MAIN	●	–	●	●
	S48	For setting the input indication for the INPUT 4 to Computer		–	–	–	MAIN	●	–	●	●
	S50	For setting the input indication for the INPUT 5 to HDMI1		–	–	–	MAIN	●	–	●	●
	S51	For setting the input indication for the INPUT 5 to Blu-Ray		–	–	–	MAIN	●	–	●	●

Command Name		Function	Effective only in Factory Mode	Adjustment Range		Initial Value	Last Memory	Active U-com		Applicable Model	
				Min.	Max.			MTB	MDU	PRO-141FD PRO-101FD	KRP-600M KRP-500M
INH	S52	For setting the input indication for the INPUT 5 to DVD		–	–	–	MAIN	●	–	●	●
	S53	For setting the input indication for the INPUT 5 to DVR		–	–	–	MAIN	●	–	●	●
	S54	For setting the input indication for the INPUT 5 to VCR		–	–	–	MAIN	●	–	●	●
	S55	For setting the input indication for the INPUT 5 to Cable		–	–	–	MAIN	●	–	●	●
	S56	For setting the input indication for the INPUT 5 to Satelite		–	–	–	MAIN	●	–	●	●
	S57	For setting the input indication for the INPUT 5 to GAME		–	–	–	MAIN	●	–	●	●
	S58	For setting the input indication for the INPUT 5 to Computer		–	–	–	MAIN	●	–	●	●
	S60	For setting the input indication for the INPUT 6 to HDMI2		–	–	–	MAIN	●	–	●	●
	S61	For setting the input indication for the INPUT 6 to Blu-Ray		–	–	–	MAIN	●	–	●	●
	S62	For setting the input indication for the INPUT 6 to DVD		–	–	–	MAIN	●	–	●	●
	S63	For setting the input indication for the INPUT 6 to DVR		–	–	–	MAIN	●	–	●	●
	S64	For setting the input indication for the INPUT 6 to VCR		–	–	–	MAIN	●	–	●	●
	S65	For setting the input indication for the INPUT 6 to Cable		–	–	–	MAIN	●	–	●	●
	S66	For setting the input indication for the INPUT 6 to Satelite		–	–	–	MAIN	●	–	●	●
	S67	For setting the input indication for the INPUT 6 to GAME		–	–	–	MAIN	●	–	●	●
	S68	For setting the input indication for the INPUT 6 to Computer		–	–	–	MAIN	●	–	●	●
INP	S01	For switching signals displayed on the main screen to the INPUT 1		–	–	–	MAIN	●	–	●	●
	S02	For switching signals displayed on the main screen to the INPUT 2		–	–	–	MAIN	●	–	●	●
	S03	For switching signals displayed on the main screen to the INPUT 3		–	–	–	MAIN	●	–	●	●
	S04	For switching signals displayed on the main screen to the INPUT 4		–	–	–	MAIN	●	–	●	●
	S05	For switching signals displayed on the main screen to the INPUT 5		–	–	–	MAIN	●	–	●	●
	S06	For switching signals displayed on the main screen to the INPUT 6		–	–	–	MAIN	●	–	●	●
		For acquiring the input function of the current main screen		–	–	–	–	●	–	●	●
IPM	S01	For setting the picture quality function to I-P Mode 1 (Motion)		–	–	–	MAIN	●	–	●	●
	S02	For setting the picture quality function to I-P Mode 2 (Standrd)		–	–	–	MAIN	●	–	●	●
	S03	For setting the picture quality function to I-P Mode 3 (Still)		–	–	–	MAIN	●	–	●	●
		For sending back the data on the current I-P Mode		–	–	–	–	●	–	●	●
IPV	S00	For setting the IP Control to Disable		–	–	–	MAIN	●	–	●	●
	S01	For setting the IP Control to Enable		–	–	–	MAIN	●	–	●	●
ITM	S00	For turning off Intelligent mode		–	–	–	MAIN	●	–	●	●
	S01	For setting Intelligent mode to Mode 1		–	–	–	MAIN	●	–	●	●
	S02	For setting Intelligent mode to Mode 2		–	–	–	MAIN	●	–	●	●
		For sending back the data on the current Intelligent mode		–	–	–	–	●	–	●	●
M											
MCD	S21	For setting color decoding for the INPUT 2 to Component 1 (YCbCr)		–	–	–	MAIN	●	–	●	●
	S22	For setting color decoding for the INPUT 2 to Component 2 (YPbPr)		–	–	–	MAIN	●	–	●	●
	S31	For setting color decoding for the INPUT 3 to Component 1 (YCbCr)		–	–	–	MAIN	●	–	●	●
	S32	For setting color decoding for the INPUT 3 to Component 2 (YPbPr)		–	–	–	MAIN	●	–	●	●
	S33	For setting color decoding for the INPUT 3 to RGB		–	–	–	MAIN	●	–	●	●
MIR	S00	For turning OFF Mirror mode (normal display)		–	–	–	MAIN	●	●	●	●
	S01	For obtaining mirror-reversed image in Mirror mode		–	–	–	MAIN	●	●	●	●
		For acquiring the data on the current Mirror mode setting		–	–	–	–	●	–	●	●
MKC	S00	MASK OFF		–	–	–	MOD	–	●	–	–
	S01	H ramp (slant 1) M	●	–	–	–	MOD	–	●	–	–
	S02	H ramp (slant 4) M	●	–	–	–	MOD	–	●	–	–
	S03	Slanting ramp M	●	–	–	–	MOD	–	●	–	–
	S04	30 for aging	●	–	–	–	MOD	–	●	–	–
	S05	05 for aging	●	–	–	–	MOD	–	●	–	–
	S06	Erasing afterimage 1	●	–	–	–	MOD	–	●	–	–
	S07	Erasing afterimage 2	●	–	–	–	MOD	–	●	–	–
	S08	White (change in luminance level)	●	–	–	–	MOD	–	●	–	–
	S09	PEAK detection raster	●	–	–	–	MOD	–	●	–	–
	S10	Address lack check	●	–	–	–	MOD	–	●	–	–
	S11	Green vertical line scroll	●	–	–	–	MOD	–	●	–	–
	S12	Green horizontal line scroll	●	–	–	–	MOD	–	●	–	–
	S13	Vertical ramp vertical scroll (white)	●	–	–	–	MOD	–	●	–	–

Command Name		Function	Effective only in Factory Mode	Adjustment Range		Initial Value	Last Memory	Active U-com		Applicable Model	
				Min.	Max.			MTB	MDU	PRO-141FD PRO-101FD	KRP-600M KRP-500M
MKC	S14	Vertical ramp vertical scroll (green)	●	–	–	–	MOD	–	●	–	–
	S15	Horizontal ramp horizontal scroll (white)	●	–	–	–	MOD	–	●	–	–
	S16	Horizontal ramp horizontal scroll (green)	●	–	–	–	MOD	–	●	–	–
	S17	Cross hatch + window	●	–	–	–	MOD	–	●	–	–
MKS	S00	OFF		–	–	–	MOD	–	●	–	–
	S01	H ramp (slant 1)	●	–	–	–	MOD	–	●	–	–
	S02	H ramp (slant 4)	●	–	–	–	MOD	–	●	–	–
	S03	V ramp (slant 1)	●	–	–	–	MOD	–	●	–	–
	S04	Slanting ramp	●	–	–	–	MOD	–	●	–	–
	S05	Window (Hi= 870, Lo= 102)	●	–	–	–	MOD	–	●	–	–
	S06	Window (Hi= 1023, Lo= 102)	●	–	–	–	MOD	–	●	–	–
	S07	Window (Hi= 1023, Lo=000)	●	–	–	–	MOD	–	●	–	–
	S08	Window (Hi= 1023) 4 %	●	–	–	–	MOD	–	●	–	–
	S09	Window (Hi= 1023) 1.25 %	●	–	–	–	MOD	–	●	–	–
	S10	Window (1/7 LINE)	●	–	–	–	MOD	–	●	–	–
	S11	STRIPE (MGT/GRN)	●	–	–	–	MOD	–	●	–	–
	S12	STRIPE (GRN/MGT)	●	–	–	–	MOD	–	●	–	–
	S13	B & W, checker (1 line)	●	–	–	–	MOD	–	●	–	–
	S14	B & W, checker (2 lines)	●	–	–	–	MOD	–	●	–	–
	S15	B & W, checker (4 lines)	●	–	–	–	MOD	–	●	–	–
	S16	B & W, checker (8 lines)	●	–	–	–	MOD	–	●	–	–
	S17	COLOR BAR	●	–	–	–	MOD	–	●	–	–
	S18	Slanting lines	●	–	–	–	MOD	–	●	–	–
	S19	Red & black, checker (1 line)	●	–	–	–	MOD	–	●	–	–
	S20	Red & black, checker (2 lines)	●	–	–	–	MOD	–	●	–	–
	S21	Red & black, checker (4 lines)	●	–	–	–	MOD	–	●	–	–
	S22	Red & black, checker (8 lines)	●	–	–	–	MOD	–	●	–	–
	S23	Erasing afterimage (RGB: zigzag, V: reverse)	●	–	–	–	MOD	–	●	–	–
	S24	SUS 2000 pulses (Black raster)	●	–	–	–	MOD	–	●	–	–
	S25	1 for perfect linear	●	–	–	–	MOD	–	●	–	–
	S26	2 for perfect linear	●	–	–	–	MOD	–	●	–	–
	S27	3 for perfect linear	●	–	–	–	MOD	–	●	–	–
	S28	4 for perfect linear	●	–	–	–	MOD	–	●	–	–
	S29	RGB checker 1	●	–	–	–	MOD	–	●	–	–
	S30	RGB checker 2	●	–	–	–	MOD	–	●	–	–
	S31	Window RED (RED=1023)	●	–	–	–	MOD	–	●	–	–
	S32	Window GREEN (GREEN=1023)	●	–	–	–	MOD	–	●	–	–
	S33	Window BLUE (BLUE=1023)	●	–	–	–	MOD	–	●	–	–
	S34	Even line horizontal stripes	●	–	–	–	MOD	–	●	–	–
	S35	Odd line horizontal stripes	●	–	–	–	MOD	–	●	–	–
	S36	Afterimage check 1	●	–	–	–	MOD	–	●	–	–
	S37	Afterimage check 2	●	–	–	–	MOD	–	●	–	–
	S38	Afterimage check 3	●	–	–	–	MOD	–	●	–	–
	S39	Afterimage check 4	●	–	–	–	MOD	–	●	–	–
	S40	Red single-color slanting ramp	●	–	–	–	MOD	–	●	–	–
	S41	Green single-color slanting ramp	●	–	–	–	MOD	–	●	–	–
	S42	Blue single-color slanting ramp	●	–	–	–	MOD	–	●	–	–
	S43	For panel light check 1	●	–	–	–	MOD	–	●	–	–
	S44	For panel light check 2	●	–	–	–	MOD	–	●	–	–
	S45	5 for perfect linear	●	–	–	–	MOD	–	●	–	–
	S46	6 for perfect linear	●	–	–	–	MOD	–	●	–	–
	S47	7 for perfect linear	●	–	–	–	MOD	–	●	–	–
	S48	8 for perfect linear	●	–	–	–	MOD	–	●	–	–
	S49	Mask for ABL adjustment	●	–	–	–	MOD	–	●	–	–

Command Name		Function	Effective only in Factory Mode	Adjustment Range		Initial Value	Last Memory	Active U-com		Applicable Model	
				Min.	Max.			MTB	MDU	PRO-141FD PRO-101FD	KRP-600M KRP-500M
MKR	S00	MASK OFF		–	–	–	MOD	–	●	–	–
	S01	Raster - White	●	–	–	–	MOD	–	●	–	–
	S02	Raster - Red	●	–	–	–	MOD	–	●	–	–
	S03	Raster - Green	●	–	–	–	MOD	–	●	–	–
	S04	Raster - Blue	●	–	–	–	MOD	–	●	–	–
	S05	Raster - Black	●	–	–	–	MOD	–	●	–	–
	S06	Raster - Cyan	●	–	–	–	MOD	–	●	–	–
	S07	Raster - Magenta	●	–	–	–	MOD	–	●	–	–
	S08	Raster - Yellow	●	–	–	–	MOD	–	●	–	–
	S09	Raster - Light purple	●	–	–	–	MOD	–	●	–	–
	S10	Raster - Pink	●	–	–	–	MOD	–	●	–	–
	S11	Raster - Yellow egg color	●	–	–	–	MOD	–	●	–	–
	S12	Raster - Light blue	●	–	–	–	MOD	–	●	–	–
	S13	Raster - Beige	●	–	–	–	MOD	–	●	–	–
	S14	Raster - Red 996+	●	–	–	–	MOD	–	●	–	–
	S15	Raster - Red 1023+	●	–	–	–	MOD	–	●	–	–
	S16	Raster - Green 1023+	●	–	–	–	MOD	–	●	–	–
	S17	Raster - Blue 1023+	●	–	–	–	MOD	–	●	–	–
	S18	Raster - Red 626+	●	–	–	–	MOD	–	●	–	–
	S19	Raster - Green 718+	●	–	–	–	MOD	–	●	–	–
	S20	Raster - Blue 626+	●	–	–	–	MOD	–	●	–	–
	S21	Raster - Gray 120	●	–	–	–	MOD	–	●	–	–
	S22	Raster - Cyan 169	●	–	–	–	MOD	–	●	–	–
	S23	Raster - Magenta 169	●	–	–	–	MOD	–	●	–	–
	S24	Raster - Yellow 169	●	–	–	–	MOD	–	●	–	–
	S25	Raster - Gray 307	●	–	–	–	MOD	–	●	–	–
MOR	S00	For turning Off Mosquito NR		–	–	–	MAIN	●	–	●	●
	S01	For turning On Mosquito NR		–	–	–	MAIN	●	–	●	●
		For sending back the data on the current Mosquito NR setting		–	–	–	–	●	–	●	●
MSE	S00	Product form : one body/monitor model	●	–	–	–	MOD	–	●	–	–
	S01	Product form : System model	●	–	–	–	MOD	–	●	–	–
MST	S00	For switching from 2-screen to 1-screen display setting		–	–	–	MAIN	●	–	●	●
	S01	For switching from 2-screen to PsideP (side-by-side) display setting		–	–	–	MAIN	●	–	●	●
	S02	For switching from 2-screen to PinP (at the lower right) display setting		–	–	–	MAIN	●	–	●	●
	S03	For switching from 2-screen to PinP (at the upper right) display setting		–	–	–	MAIN	●	–	●	●
	S04	For switching from 2-screen to PinP (at the upper left) display setting		–	–	–	MAIN	●	–	●	●
	S05	For switching from 2-screen to PinP (at the lower left) display setting		–	–	–	MAIN	●	–	●	●
	S08	For switching from 2-screen to SWAP (pictures in the main and subscreens swapped) display setting		–	–	–	MAIN	●	–	●	●
N											
NGP	S00	Negative positive inversion: OFF		–	–	–	–	–	●	–	–
	S01	Negative positive inversion: ON		–	–	–	–	–	●	–	–
NOO	S00	For disabling the “No operation off” function		–	–	–	MAIN	●	–	●	●
	S01	For enabling the “No operation off” function		–	–	–	MAIN	●	–	●	●
NR3	S00	For setting 3DNR to Off		–	–	–	MAIN	●	–	●	●
	S01	For setting 3DNR to Low		–	–	–	MAIN	●	–	●	●
	S02	For setting 3DNR to Mid		–	–	–	MAIN	●	–	●	●
	S03	For setting 3DNR to High		–	–	–	MAIN	●	–	●	●
		For sending back the data on the current 3DNR setting		–	–	–	MAIN	●	–	●	●
NSO	S00	For disabling the “No signal off” function		–	–	–	MAIN	●	–	●	●
	S01	For enabling the “No signal off” function		–	–	–	MAIN	●	–	●	●
O											
ORB	S00	For setting Orbiter to OFF		–	–	–	MAIN	●	–	●	●
	S01	For setting Orbiter to ON (MODE1)		–	–	–	MAIN	●	–	●	●
	S02	For setting Orbiter to ON (MODE2)		–	–	–	MAIN	●	–	●	●
OSD	S00	For turning off on-screen display		–	–	–	MAIN	●	–	●	●
	S01	For turning on on-screen display		–	–	–	MAIN	●	–	●	●
OSR	S00	For turning off on-screen display of communication command from the RS-232C and LAN terminals		–	–	–	MAIN	●	–	●	●
	S01	For turning on on-screen display of communication command from the RS-232C and LAN terminals		–	–	–	MAIN	●	–	●	●

Command Name		Function	Effective only in Factory Mode	Adjustment Range		Initial Value	Last Memory	Active U-com		Applicable Model	
				Min.	Max.			MTB	MDU	PRO-141FD PRO-101FD	KRP-600M KRP-500M
P											
PAV	S00	AV selection: FACTORY		–	–	–	–	–	●	–	–
	S01	AV selection: STANDARD / PERFORMANCE		–	–	–	–	–	●	–	–
	S02	AV selection: DYNAMIC		–	–	–	–	–	●	–	–
	S03	AV selection: MOVIE		–	–	–	–	–	●	–	–
	S04	AV selection: GAME		–	–	–	–	–	●	–	–
	S05	AV selection: SPORT		–	–	–	–	–	●	–	–
	S06	AV selection: PURE		–	–	–	–	–	●	–	–
	S07	AV selection: USER		–	–	–	–	–	●	–	–
	S08	AV selection: isf-DAY		–	–	–	–	–	●	–	–
	S09	AV selection: isf-NIGHT		–	–	–	–	–	●	–	–
	S10	AV selection: OPTIMUM		–	–	–	–	–	●	–	–
	S11	AV selection: isf-AUTO		–	–	–	–	–	●	–	–
	S12	AV selection: Standard		–	–	–	–	–	●	–	–
	S13	AV selection: Reserved (Australian standard)		–	–	–	–	–	●	–	–
PBH	***	Panel white balance adjustment - Blue highlight	●	–	–	–	MOD	–	●	–	–
PBL	***	Panel white balance adjustment - Blue low light	●	–	–	–	MOD	–	●	–	–
PBX	***	Panel Bx measuring value	●	–	–	–	MOD	–	●	–	–
PBY	***	Panel By measuring value	●	–	–	–	MOD	–	●	–	–
PCS	S00	Normal operation		–	–	–	–	–	●	–	–
	S01	Catalog specification operation		–	–	–	–	–	●	–	–
PDM	S00	Passing PD signals to the POWER SUPPLY Unit => Power-down		–	–	–	–	–	●	–	–
	S01	Not passing PD signals to the POWER SUPPLY Unit => No power-down		–	–	–	–	–	●	–	–
PES	S00	For general-purpose commonness: Standard		–	–	–	–	–	●	–	–
	S01	For general-purpose commonness: Energy saving 1		–	–	–	–	–	●	–	–
	S02	For general-purpose commonness: Energy saving 2		–	–	–	–	–	●	–	–
	S10	For general-purpose Japan standard: Standard		–	–	–	–	–	●	–	–
	S11	For general-purpose Japan standard: Energy saving 1		–	–	–	–	–	●	–	–
	S12	For general-purpose Japan standard: Energy saving 2		–	–	–	–	–	●	–	–
PFL	S**	Center luminance correction		–	–	–	–	–	●	–	–
	S00	Peripheral luminance correction: OFF		–	–	–	–	–	●	–	–
	S01	Peripheral luminance correction: ON fixed		–	–	–	–	–	●	–	–
	S02	Peripheral luminance correction: APL interlocked ON		–	–	–	–	–	●	–	–
PFN		Factory mode at panel side: OFF	●	–	–	–	–	–	●	–	–
PFS		Setup the panel side to shipment	●	–	–	–	MOD	–	●	–	–
PFY		Factory mode at panel side: ON		–	–	–	–	–	●	–	–
PGB	S00	Blue gamma setting: Straight		–	–	–	–	–	●	–	–
	S01	Blue gamma setting: Fixed on 1.6		–	–	–	–	–	●	–	–
	S02	Blue gamma setting: Fixed on 1.7		–	–	–	–	–	●	–	–
	S03	Blue gamma setting: Fixed on 1.8		–	–	–	–	–	●	–	–
	S04	Blue gamma setting: Fixed on 1.9		–	–	–	–	–	●	–	–
	S05	Blue gamma setting: Fixed on 2.0		–	–	–	–	–	●	–	–
	S06	Blue gamma setting: Fixed on 2.1		–	–	–	–	–	●	–	–
	S07	Blue gamma setting: Fixed on 2.2		–	–	–	–	–	●	–	–
	S08	Blue gamma setting: Fixed on 2.3		–	–	–	–	–	●	–	–
	S09	Blue gamma setting: Fixed on 2.4		–	–	–	–	–	●	–	–
	S10-31	Blue gamma setting: Customize		–	–	–	–	–	●	–	–
PGG	S00	Green gamma setting: Straight		–	–	–	–	–	●	–	–
	S01	Green gamma setting: Fixed on 1.6		–	–	–	–	–	●	–	–
	S02	Green gamma setting: Fixed on 1.7		–	–	–	–	–	●	–	–
	S03	Green gamma setting: Fixed on 1.8		–	–	–	–	–	●	–	–
	S04	Green gamma setting: Fixed on 1.9		–	–	–	–	–	●	–	–
	S05	Green gamma setting: Fixed on 2.0		–	–	–	–	–	●	–	–
	S06	Green gamma setting: Fixed on 2.1		–	–	–	–	–	●	–	–
	S07	Green gamma setting: Fixed on 2.2		–	–	–	–	–	●	–	–
	S08	Green gamma setting: Fixed on 2.3		–	–	–	–	–	●	–	–
	S09	Green gamma setting: Fixed on 2.4		–	–	–	–	–	●	–	–
	S10-31	Green gamma setting: Customize		–	–	–	–	–	●	–	–

Command Name		Function	Effective only in Factory Mode	Adjustment Range		Initial Value	Last Memory	Active U-com		Applicable Model	
				Min.	Max.			MTB	MDU	PRO-141FD PRO-101FD	KRP-600M KRP-500M
PGH	***	Panel white balance adjustment - Green highlight	●	–	–	–	MOD	–	●	–	–
PGL	***	Panel white balance adjustment - Green low light	●	–	–	–	MOD	–	●	–	–
PGX	***	Panel Gx measuring value	●	–	–	–	MOD	–	●	–	–
PGY	***	Panel Gy measuring value	●	–	–	–	MOD	–	●	–	–
PGR	S00	Red gamma setting: Straight		–	–	–	–	–	●	–	–
	S01	Red gamma setting: Fixed on 1.6		–	–	–	–	–	●	–	–
	S02	Red gamma setting: Fixed on 1.7		–	–	–	–	–	●	–	–
	S03	Red gamma setting: Fixed on 1.8		–	–	–	–	–	●	–	–
	S04	Red gamma setting: Fixed on 1.9		–	–	–	–	–	●	–	–
	S05	Red gamma setting: Fixed on 2.0		–	–	–	–	–	●	–	–
	S06	Red gamma setting: Fixed on 2.1		–	–	–	–	–	●	–	–
	S07	Red gamma setting: Fixed on 2.2		–	–	–	–	–	●	–	–
	S08	Red gamma setting: Fixed on 2.3		–	–	–	–	–	●	–	–
	S09	Red gamma setting: Fixed on 2.4		–	–	–	–	–	●	–	–
	S10-31	Redt gamma setting: Customize		–	–	–	–	–	●	–	–
PKD	S00	Peak luminance detection: OFF	●	–	–	–	–	–	●	–	–
	S01	Peak luminance detection: ON	●	–	–	–	–	–	●	–	–
PKL	S00	No brightness limitation : 100 %		–	–	–	–	–	●	–	–
	S01	Brightness limitation 1 : 87 %		–	–	–	–	–	●	–	–
	S02	Brightness limitation 2 : 73 %		–	–	–	–	–	●	–	–
	S03	Brightness limitation 3 : 60 %		–	–	–	–	–	●	–	–
	S04	Brightness limitation 4 : 52 %		–	–	–	–	–	●	–	–
	S05	Brightness limitation 5 : 40 %		–	–	–	–	–	●	–	–
	S06	Brightness limitation 6 : 27 %		–	–	–	–	–	●	–	–
	S07	Brightness limitation 7 : 13 %		–	–	–	–	–	●	–	–
PMT	S00	Canceling panel muting		–	–	–	–	–	●	–	–
	S01	Panel muting		–	–	–	–	–	●	–	–
PMN	S00	For setting Power Management to OFF		–	–	–	MAIN	●	–	●	●
	S01	For setting Power Management to mode 1		–	–	–	MAIN	●	–	●	●
	S02	For setting Power Management to mode 2		–	–	–	MAIN	●	–	●	●
POC	S00	For turning off HDMI-Power off control		–	–	–	MAIN	●	–	●	●
	S01	For turning on HDMI-Power off control		–	–	–	MAIN	●	–	●	●
POF		For turning power OFF		–	–	–	MAIN	●	●	●	●
PON		For turning power ON		–	–	–	MAIN	●	●	●	●
POR	S00	For turning off HDMI-Power on ready		–	–	–	MAIN	●	–	●	●
	S01	For turning on HDMI-Power on ready		–	–	–	MAIN	●	–	●	●
PRH	***	Panel white balance adjustment - Red highlight	●	–	–	–	MOD	–	●	–	–
PRL	***	Panel white balance adjustment - Red low light	●	–	–	–	MOD	–	●	–	–
PRX	***	Panel Rx measuring value	●	–	–	–	MOD	–	●	–	–
PRY	***	Panel Ry measuring value	●	–	–	–	MOD	–	●	–	–
PTR	S00	Transmittance setting for the subscreen: OFF		–	–	–	MAIN	●	–	●	●
	S01	Transmittance setting for the subscreen: 10%		–	–	–	MAIN	●	–	●	●
	S02	Transmittance setting for the subscreen: 20%		–	–	–	MAIN	●	–	●	●
	S03	Transmittance setting for the subscreen: 30%		–	–	–	MAIN	●	–	●	●
	S04	Transmittance setting for the subscreen: 40%		–	–	–	MAIN	●	–	●	●
	S05	Transmittance setting for the subscreen: 50%		–	–	–	MAIN	●	–	●	●
	S06	Transmittance setting for the subscreen: 60%		–	–	–	MAIN	●	–	●	●
	S07	Transmittance setting for the subscreen: 70%		–	–	–	MAIN	●	–	●	●
	S08	Transmittance setting for the subscreen: 80%		–	–	–	MAIN	●	–	●	●
PUC	S00	PURECINEMA: OFF		–	–	–	MAIN	●	–	●	●
	S01	PURECINEMA: STANDARD		–	–	–	MAIN	●	–	●	●
	S02	PURECINEMA: ADVANCE		–	–	–	MAIN	●	–	●	●
	S03	PURECINEMA: SMOOTH		–	–	–	MAIN	●	–	●	●
		For sending back the data on the current PURE CINEMA setting		–	–	–	–	●	–	●	●

Command Name		Function	Effective only in Factory Mode	Adjustment Range		Initial Value	Last Memory	Active U-com		Applicable Model	
				Min.	Max.			MTB	MDU	PRO-141FD PRO-101FD	KRP-600M KRP-500M
Q											
QAJ		Acquiring various adjustment values of the panel side		–	–	–	–	–	●	–	–
QAP		For acquiring the data on the model name		–	–	–	–	●	–	●	●
QIS		For acquiring the data on the input setup		–	–	–	–	●	–	●	●
QMT		For acquiring the data on the optical sensor		–	–	–	–	●	–	●	●
QOS		For acquiring the data on the optional settings		–	–	–	–	●	–	●	●
QPD		Acquiring logs of power-down points		–	–	–	–	–	●	–	–
QPF		Acquiring characteristic / function setting values of the panel side		–	–	–	–	–	●	–	–
QPM		Acquiring data of the pulse meter		–	–	–	–	–	●	–	–
QPI		For acquiring the data on the PICTURE settings		–	–	–	–	●	–	●	●
QPS		For acquiring the data on the SCREEN settings		–	–	–	–	●	–	●	●
QPW		Acquiring panel white balance adjustment values		–	–	–	–	–	●	–	–
QS1		For acquiring the data on versions for various components		–	–	–	–	●	●	●	●
QS2		Acquiring data on the status of the unit, such as temperature		–	–	–	–	–	●	–	–
QS3		Each information output for panel		–	–	–	–	–	●	–	–
QS5		Each information output for panel (individual function)		–	–	–	–	–	●	–	–
QSP		Acquiring sub-version of the microcomputer for panel		–	–	–	–	–	●	–	–
QSD		Acquiring data on shutdown		–	–	–	–	–	●	–	–
QSI		Acquiring data related with signals		–	–	–	–	–	●	–	–
QST		For acquiring the data on status		–	–	–	–	●	–	●	●
QSU		For acquiring the data on audio status		–	–	–	–	●	–		●
QWB		For acquiring the data on WHITE BAL		–	–	–	–	●	–	●	●
R											
R1K	***	First reset (wedge width)	●	–	–	–	MOD	–	●	–	–
R2K	***	Second reset (wedge width)	●	–	–	–	MOD	–	●	–	–
RBL	S00-7	BLUE setting for panel degradation correction : Level 0 to 7	●	–	–	–	MOD	–	●	–	–
RGL	S00-7	GREEN setting for panel degradation correction : Level 0 to 7	●	–	–	–	MOD	–	●	–	–
RHI	***	For adjusting R.HIGH (VIDEO signal) For adjusting Red (PC signal)		000(video) 000(PC)	120(video) 60(PC)	60(video) 30(PC)	MAIN	●	–	●	●
		For sending back the R.HIGH adjustment data (VIDEO signal) For sending back the Red adjustment data (PC signal)		–	–	–	MAIN	●	–	●	●
RIP		For reading out the IP address		–	–	–	–	●	–	●	●
RLC	S00	For setting the room light sensor setting to OFF		–	–	–	MAIN	●	–	●	●
	S01	For setting the room light sensor setting to ON		–	–	–	MAIN	●	–	●	●
		For sending back the data on the room light sensor setting		–	–	–	MAIN	●	–	●	●
RLS	S00	Room light sensor operation : OFF		–	–	–	–	–	●	–	–
	S01-5	Room light sensor operation : 1 to 5		–	–	–	–	–	●	–	–
RLW	***	For adjusting R.LOW		000	120	060	MAIN	●	–	●	●
		For sending back the R.Low adjustment data		–	–	–	MAIN	●	–	●	●
RMA		For reading out the MAC address from the IP microcomputer		–	–	–	–	●	–	●	●
RMC	S00	“0” key on the remote control unit		–	–	–	–	●	–	●	●
	S01	“1” key on the remote control unit		–	–	–	–	●	–	●	●
	S02	“2” key on the remote control unit		–	–	–	–	●	–	●	●
	S03	“3” key on the remote control unit		–	–	–	–	●	–	●	●
	S04	“4” key on the remote control unit		–	–	–	–	●	–	●	●
	S05	“5” key on the remote control unit		–	–	–	–	●	–	●	●
	S06	“6” key on the remote control unit		–	–	–	–	●	–	●	●
	S07	“7” key on the remote control unit		–	–	–	–	●	–	●	●
	S08	“8” key on the remote control unit		–	–	–	–	●	–	●	●
	S09	“9” key on the remote control unit		–	–	–	–	●	–	●	●
	S10	”CURSOR RIGHT” key on the remote control unit		–	–	–	–	●	–	●	●
	S11	”CURSOR LEFT” key on the remote control unit		–	–	–	–	●	–	●	●
	S12	”CURSOR UP” key on the remote control unit		–	–	–	–	●	–	●	●
	S13	”CURSOR DOWN” key on the remote control unit		–	–	–	–	●	–	●	●
	S14	”SET” key on the remote control unit		–	–	–	–	●	–	●	●
	S25	”MENU” key on the remote control unit		–	–	–	–	●	–	●	●
	S29	”FREEZE” key on the remote control unit		–	–	–	–	●	–	●	●
	S30	”STANDBY/ON” key on the remote control unit		–	–	–	–	●	–	●	●
	S31	”VOLUME UP” key on the remote control unit		–	–	–	–	●	–	–	●

Command Name		Function	Effective only in Factory Mode	Adjustment Range		Initial Value	Last Memory	Active U-com		Applicable Model	
				Min.	Max.			MTB	MDU	PRO-141FD PRO-101FD	KRP-600M KRP-500M
RMC	S32	"VOLUME DOWN" key on the remote control unit		–	–	–	–	●	–	–	●
	S33	"MUTING" key on the remote control unit		–	–	–	–	●	–	–	●
	S34	"SCREEN SIZE" key on the remote control unit		–	–	–	–	●	–	●	●
	S35	"SPLIT" key on the remote control unit		–	–	–	–	●	–	●	●
	S36	"SUB INPUT" key on the remote control unit		–	–	–	–	●	–	●	●
	S37	"PIP SHIFT" key on the remote control unit		–	–	–	–	●	–	●	●
	S41	"DISPLAY" key on the remote control unit		–	–	–	–	●	–	●	●
	S42	"RETURN" key on the remote control unit		–	–	–	–	●	–	●	●
	S56	"EXIT" key on the remote control unit		–	–	–	–	●	–	●	●
	S57	"AV SELECTION" key on the remote control unit		–	–	–	–	●	–	●	●
	S59	"USER MENU" key on the remote control unit		–	–	–	–	●	–	●	●
	S60	"SWAP" key on the remote control unit		–	–	–	–	●	–	●	●
RRL	S00-7	RED setting for panel degradation correction : Level 0 to 7	●	–	–	–	MOD		●		
S											
SAT	***	Timing adjustment between the scan and address	●	–	–	–	MOD	–	●	–	–
SCW	S00	Normal operation		–	–	–	–	–	●	–	–
	S01	Draw the warning blue window (left side)		–	–	–	–	–	●	–	–
	S02	Draw the warning red window (right side)		–	–	–	–	–	●	–	–
SDM	S00	Shutdown enabled		–	–	–	–	–	●	–	–
	S01	Shutdown prohibited		–	–	–	–	–	●	–	–
SFR	S01-8	Measures against AM radio noise - Pattern 1 to 8	●	–	–	–	MOD	–	●	–	–
SFT	S01	For setting the format of the signal being displayed to Type 1		–	–	–	MAIN	●	–	●	●
	S02	For setting the format of the signal being displayed to Type 2		–	–	–	MAIN	●	–	●	●
	S03	For setting the format of the signal being displayed to Type 3		–	–	–	MAIN	●	–	●	●
	S04	For setting the format of the signal being displayed to Type 4		–	–	–	MAIN	●	–	●	●
	S05	For setting the format of the signal being displayed to Type 5		–	–	–	MAIN	●	–	●	●
	S06	For setting the format of the signal being displayed to Type 6		–	–	–	MAIN	●	–	●	●
	S07	For setting the format of the signal being displayed to Type 7		–	–	–	MAIN	●	–	●	●
	S08	For setting the format of the signal being displayed to Type 8		–	–	–	MAIN	●	–	●	●
	S09	For setting the format of the signal being displayed to Type 9		–	–	–	MAIN	●	–	●	●
	S10	For setting the format of the signal being displayed to AUTO		–	–	–	MAIN	●	–	●	●
	S20	For setting the format of the signal being displayed to Type 10		–	–	–	MAIN	●	–	●	●
		For acquiring the data on the format of the signal being displayed		–	–	–	–	●	–	●	●
SHP	***	For adjusting sharpness		000	031	016	MAIN	●	–	●	●
SKM	S00	STREAKING correction mode OFF	●	–	–	–	MOD	–	●	–	–
	S01-8	STREAKING correction mode Setting mode 1 to 8	●	–	–	–	MOD	–	●	–	–
SMC	S00	Smooth clear drive OFF	●	–	–	–	–	–	●	–	–
	S01	Smooth clear drive ON	●	–	–	–	–	–	●	–	–
SML	***	Adjustment of the side mask level	●	–	–	–	MOD	–	●	–	–
SN0	***	Setting of the serial No. 0 (panel)	●	–	–	–	MOD	–	●	–	–
SN1	***	Setting of the serial No. 1 (panel)	●	–	–	–	MOD	–	●	–	–
SN2	***	Setting of the serial No. 2 (panel)	●	–	–	–	MOD	–	●	–	–
SN3	***	Setting of the serial No. 3 (panel)	●	–	–	–	MOD	–	●	–	–
SN4	***	Setting of the serial No. 4 (panel)	●	–	–	–	MOD	–	●	–	–
SQM	S01	VIDEO sequence setting		–	–	–	–	–	●	–	–
	S02	PC sequence setting		–	–	–	–	–	●	–	–
	S03	FILM sequence setting		–	–	–	–	–	●	–	–
SSI	S01	For switching subscreen signals to the INPUT 1		–	–	–	MAIN	●	–	●	●
	S02	For switching subscreen signals to the INPUT 2		–	–	–	MAIN	●	–	●	●
	S03	For switching subscreen signals to the INPUT 3		–	–	–	MAIN	●	–	●	●
	S04	For switching subscreen signals to the INPUT 4		–	–	–	MAIN	●	–	●	●
	S05	For switching subscreen signals to the INPUT 5		–	–	–	MAIN	●	–	●	●
	S06	For switching subscreen signals to the INPUT 6		–	–	–	MAIN	●	–	●	●
		For acquiring the data on the input function of the subscreen being displayed		–	–	–	–	●	–	●	●
SSM	S00	SSCG OFF	●	–	–	–	–	–	●	–	–
	S01	SSCG ON	●	–	–	–	–	–	●	–	–
STD		For resetting the PICTURE setting to the initial value		–	–	–	MAIN	●	–	●	●
STL	S00	For canceling FREEZE		–	–	–	–	●	–	●	●
	S01	For activating FREEZE		–	–	–	–	●	–	●	●

Command Name		Function	Effective only in Factory Mode	Adjustment Range		Initial Value	Last Memory	Active U-com		Applicable Model	
				Min.	Max.			MTB	MDU	PRO-141FD PRO-101FD	KRP-600M KRP-500M
SVL	***	For adjusting the subvolume		000	020	020	MAIN	●	–	–	●
SWA	***	Estimated value of the illuminant color (absolute value)		–	–	–	–	–	●	–	–
SWF	S00	Reflection of the estimated information of the illuminant color: OFF		–	–	–	–	–	●	–	–
	S01	Reflection of the estimated information of the illuminant color: ON		–	–	–	–	–	●	–	–
SWR	***	Estimated value of the illuminant color (relative value)		–	–	–	–	–	●	–	–
SWM		For full-screen display of the main-screen display		–	–	–	MAIN	●	–	●	●
SWS		For full-screen display of the subscreen display		–	–	–	MAIN	●	–	●	●
SZM	S00	For setting the screen size to “Dot by Dot” or PARTIAL		–	–	–	MAIN	●	–	●	●
	S01	For setting the screen size to 4:3		–	–	–	MAIN	●	–	●	●
	S02	For setting the screen size to FULL (1) or FULL1080i		–	–	–	MAIN	●	–	●	●
	S03	For setting the screen size to ZOOM		–	–	–	MAIN	●	–	●	●
	S04	For setting the screen size to CINEMA		–	–	–	MAIN	●	–	●	●
	S05	For setting the screen size to WIDE or WIDE1		–	–	–	MAIN	●	–	●	●
	S06	For setting the screen size to FULL 14:9		–	–	–	MAIN	●	–	●	●
	S07	For setting the screen size to CINEMA 14:9		–	–	–	MAIN	●	–	●	●
	S08	For setting the screen size to FULL2 (1035i)		–	–	–	MAIN	●	–	●	●
	S11	For setting the screen size to Auto		–	–	–	MAIN	●	–	●	●
	S12	For setting the screen size to WIDE2		–	–	–	MAIN	●	–	●	●
T											
TNT	***	For tint adjustment		000	120	060	MAIN	●	–	●	●
THS	S00	Theater port interlock operation OFF		–	–	–	–	–	●	–	–
	S01	Theater port interlock operation ON		–	–	–	–	–	●	–	–
TOP	S00	For setting Text Optimization to OFF		–	–	–	MAIN	●	–	●	●
	S01	For setting Text Optimization to ON		–	–	–	MAIN	●	–	●	●
U											
UAJ		Determining the flag for the DIGITAL Assy adjustment in "not adjusted"	●	–	–	–	MOD	–	●	–	–
UP0		For increasing the adjustment value by 10		–	–	–	MAIN	●	–	●	●
UPF		For setting the adjustment value to the maximum		–	–	–	MAIN	●	–	●	●
UPn		For increasing the adjustment value by n (n= 1-9)		–	–	–	MAIN	●	–	●	●
V											
V1F	***	Adjustment of the reference value of Vyknofs 1, 2 voltage	●	–	–	–	MOD	–	●	–	–
V3F	***	Adjustment of the reference value of Vyknofs 3 voltage	●	–	–	–	MOD	–	●	–	–
V4F	***	Adjustment of the reference value of Vyknofs 4 voltage	●	–	–	–	MOD	–	●	–	–
VFQ	S02	Setting the frequency in Mask mode to VD-50 Hz	●	–	–	–	MOD	–	●	–	–
	S03	Setting the frequency in Mask mode to VD-60 Hz	●	–	–	–	MOD	–	●	–	–
	S05	Setting the frequency in Mask mode to VD-72 Hz	●	–	–	–	MOD	–	●	–	–
	S06	Setting the frequency in Mask mode to VD-75 Hz-1	●	–	–	–	MOD	–	●	–	–
	S07	Setting the frequency in Mask mode to VD-75 Hz-2	●	–	–	–	MOD	–	●	–	–
	S13	Setting the frequency in Mask mode to PC-60 Hz	●	–	–	–	MOD	–	●	–	–
VOF	***	Adjustment of the reference value of Vysnofs voltage	●	–	–	–	MOD	–	●	–	–
VOL	***	For adjusting the audio volume		000	060	015	MAIN	●	–	–	●
VPS	***	For adjusting vertical position		000	240(PC) 020(moving picture)	120(PC) 010(moving picture)	MAIN	●	–	●	●
VRP	***	Adjustment of the reference value of Vyprst voltage	●	–	–	–	MOD	–	●	–	–
VSU	***	Adjustment of the reference value of Vsus voltage	●	–	–	–	MOD	–	●	–	–
VX1	***	Adjustment of the reference value of Vxpofs1 voltage	●	–	–	–	MOD	–	●	–	–
VX2	***	Adjustment of the reference value of Vxpofs2 voltage	●	–	–	–	MOD	–	●	–	–
VYF	***	Adjustment of the reference value of Δ Vyknofs1, 2/3/4 voltage	●	–	–	–	MOD	–	●	–	–
W											
WBI	S00	Panel WB standard output mode: OFF	●	–	–	–	–	–	●	–	–
	S01	Panel WB standard output mode: ON	●	–	–	–	–	–	●	–	–
WIP		For writing the IP address		–	–	–	–	●	–	●	●
WNM		For writing the host name		–	–	–	–	●	–	●	●

Command Name		Function	Effective only in Factory Mode	Adjustment Range		Initial Value	Last Memory	Active U-com		Applicable Model	
				Min.	Max.			MTB	MDU	PRO-141FD PRO-101FD	KRP-600M KRP-500M
X											
X1B	***	3SF and later-first XSUS (resonance up width)	●	–	–	–	MOD	–	●	–	–
X3B	***	2SF-third XSUS (resonance up width)	●	–	–	–	MOD	–	●	–	–
XSB	***	2SF-repeat XSUS (resonance up width)	●	–	–	–	MOD	–	●	–	–
Y											
Y1K	***	1SF-YSUS-Tail (wedge width)	●	–	–	–	MOD	–	●	–	–
Y1Z	***	1SF-YSUS-Tail (resonance down width)	●	–	–	–	MOD	–	●	–	–
Y2B	***	2SF-second YSUS (resonance up width)	●	–	–	–	MOD	–	●	–	–
Y2K	***	2SF-YSUS-Tail (wedge width)	●	–	–	–	MOD	–	●	–	–
Y2Z	***	2SF-YSUS-Tail (resonance down width)	●	–	–	–	MOD	–	●	–	–
YNK	***	3SF and later (SSF 2 pulses)-YSUS Tail (wedge width)	●	–	–	–	MOD	–	●	–	–
YTK	***	3SF and later-YSUS Tail (wedge width)	●	–	–	–	MOD	–	●	–	–
YTZ	***	3SF and later-YSUS Tail (resonance down width)	●	–	–	–	MOD	–	●	–	–
YSB	***	2SF-repeat YSUS (resonance up width)	●	–	–	–	MOD	–	●	–	–

5.9 DETAILS OF RS-232C AND IP COMMANDS

[1] QS2 (PANEL OPERATION DATA)

The command QS2 is for acquiring data on the panel's operational information.

Command Format	Effective Operation Modes	Function	Remarks
[QS2]	Every Time	Output of status	Return data: 3 (ECO) + 34 (DATA) + 2 (CS) = 39 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QS2
1	Notify of the standby operation transition	1 byte	1
2	Adjustment flag of the main unit	1 byte	0
3	Adjustment-data backup flag	1 byte	0
4	"1st PD" data	1 byte	0
5	"2nd PD" data	1 byte	0
6	Color sensor data	1 byte	0
7	Reserved	2 byte	**
8	Temperature data (TEMP 1)	3 byte	128
9	SD data	1 byte	0
10	SD subcategory data	1 byte	0
11	Operation status induced by SD	1 byte	0
12	Reserved	3 byte	***
13	HOUR METER	8 byte	00000259
14	MASK indication	1 byte	0
15	Still picture detection	1 byte	0
16	SCAN protection detection	1 byte	0
17	Panel crack detection	1 byte	0
18	Address emergency detection	1 byte	0
19	Reserved	4 byte	****
CS	2 Byte	2 byte	4A

1: Power supply status	
P	During power ON
0	Shifting to Passive Standby is not possible.
1	Shifting to Passive Standby is possible.

2: Adjustment flag of the main unit	
0	Adjustment completed
1	Adjustment not completed

3: Adjustment-data backup flag	
0	Adjustment completed
1	Adjustment not completed

4, 5: PD data	
0	No PD data
2	POWER
3	SCAN
4	SCN-5V
6	Y-DCDC
7	Y-SUS
8	ADRS
A	X-DCDC
B	X-SUS
C	DIG-DCDC
F	UNKNOWN

6: Color sensor data	
-	Function OFF (including standby)
0	Normal
1	Hardware connection is not completed
2	Data mismatching

9: SD data	
0	No SD
1	SQ_LSI
2	MDU-DEVICE
3	RST2
4	Panel temperature

10-1: SD subcategory (SQ_LSI)	
0	No SD-Sub data
1	Communication error
2	Drive stop
3	BUSY
4	Version mismatching (H/S)
5	Version mismatching (H/M)
6	Version mismatching (H/I)

10-2: SD subcategory (MD-DEVICE)	
0	No SD-Sub data
1	EEPROM
2	BACKUP
3	DAC

10-3: SD subcategory (Panel temperature)	
0	No SD-Sub data
1	Panel high temperature
2	Panel low temperature

11: Operation status induced by SD	
0	Normal
1	Relay-off completed
2	During warning indication

14: MASK indication	
0	MASK-OFF
1	MASK-ON

15 to 18: Detection of Each Protection function	
0	Normal operation
1	At detection of protection operation

[2] QS3 (OTHER DATA ON THE PANEL)

The command QS3 is for acquiring data on operational information of the panel.

Command Format	Effective Operation Modes	Function	Remarks
[QS3]	Every Time	Output of status	Return data: 3 (ECO) + 58 (DATA) + 2 (CS) = 63 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QS3
1	SERIAL	15 byte	- - - - - - - - - - - - - - -
2	HOUR METER	8 byte	00000000
3	TOTAL HR METER	8 byte	00000000
4	PON COUNTER	8 byte	00000000
5	Panel temperature (*1)	5 byte	23.5
6	Reserved (TEMP0 acquisition)	5 byte	_ _ _._
7	MAX panel temperature history (*1)	5 byte	78.3
8	Reserved	4 byte	****
CS	2 Byte	2 byte	94

Note
(*1) : Centigrade scale

[3] QSP (SUB VERSION OF THE PANEL SECTION)

The command QSP is for acquiring sub version data on software of the panel.

Command Format	Effective Operation Modes	Function	Remarks
[QSP]	Every Time	Output of status	Return data: 3 (ECO) + 40 (DATA) + 2 (CS) = 45 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QSP
1	MDUcom-PRG	8 byte	=01Y
2	MDUcom-DATA_TBL	8 byte	=01Y ’’’’
3	SQ_LSI-PRG	4 byte	=01Y
4	SQ_LSI-PIC_TBL	8 byte	=01Y ’’’’
5	SQ_LSI-SEQ_DATA	4 byte	=01Y
6	Reserved	8 byte	********
CS	2 Byte	2 byte	A3

[4] QAJ (PANEL ADJUSTMENT DATA)

The command QAJ is for acquiring the panel's factory-preset data.

Command Format	Effective Operation Modes	Function	Remarks
[QAJ]	Every Time	Output of status	Return data: 3 (ECO) + 84 (DATA) + 2 (CS) = 89 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QAJ
1	Vsus adjustment value	3 byte	128
2	Vysnofs adjustment value	3 byte	128
3	Vyprst adjustment value	3 byte	128
4	Vxpofs1 adjustment value	3 byte	128
5	Vxpofs2 adjustment value	3 byte	128
6	Vyknofs1,2 adjustment value	3 byte	128
7	Vyknofs3 adjustment value	3 byte	128
8	Vyknofs4 adjustment value	3 byte	128
9	∆ Vyknofs1,2/3/4 adjustment value	3 byte	128
10	Reserved	6 byte	******
11	R1K adjustment value	3 byte	128
12	R2K adjustment value	3 byte	128
13	Y1K adjustment value	3 byte	128
14	Y1Z adjustment value	3 byte	128
15	X1B adjustment value	3 byte	128
16	Y2B adjustment value	3 byte	128
17	X3B adjustment value	3 byte	128
18	YSB adjustment value	3 byte	128
19	XSB adjustment value	3 byte	128
20	YTK adjustment value	3 byte	128
21	YTZ adjustment value	3 byte	128
22	Y2K adjustment value	3 byte	128
23	Y2Z adjustment value	3 byte	128
24	YNK adjustment value	3 byte	128
25	SAT adjustment value	3 byte	128
26	Reserved	3 byte	***
27	AM radio countermeasure	1 byte	1
28	Reserved	2 byte	**
CS	2 Byte	2 byte	B7

27: AM radio countermeasure	
n	n: 1 to 8 (SUS frequency n)

[5] QPW (VIDEO ADJUSTMENT DATA OF THE PANEL)

The command QPW is for acquiring the factory-preset data about the video of the panel.

Command Format	Effective Operation Modes	Function	Remarks
[QPW]	Every Time	Output of status	Return data: 3 (ECO) + 40 (DATA) + 2 (CS) = 45 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QPW
1	Type of drive sequence (Note 1)	4 byte	60VS
2	ABL adjustment table	1 byte	1
3	Type of WB adjustment table (Note 1)	1 byte	1
4	ABL adjustment value	3 byte	128
5	R-HIGH adjustment value	3 byte	256
6	G-HIGH adjustment value	3 byte	256
7	B-HIGH adjustment value	3 byte	256
8	R-LOW adjustment value	3 byte	512
9	G-LOW adjustment value	3 byte	512
10	B-LOW adjustment value	3 byte	512
11	R gamma setting	2 byte	31
12	G gamma setting	2 byte	10
13	B gamma setting	2 byte	10
14	Streaking correction	1 byte	1
15	Center luminance correction	1 byte	0
16	Reserved	1 byte	*
17	Interlocked with APL	1 byte	0
18	Transition of protective operations	1 byte	0
19	Reserved	2 byte	**
CS	2 Byte	2 byte	37

1: Type of Drive sequence

50VS	Video 50 Hz
60VS	Video 60 Hz
72VS	Video 72 Hz
75V1	Video 75-1 Hz
75V2	Video 75-2 Hz
60PS	PC 60 Hz

2: ABL adjustment table

n	n: 1 to 3

3: Type of WB adjustment table

n	n: 1 to 4

11, 12, 13: RGB Gamma setting

n	00 to 31

15: Center luminance correction

0	OFF
1	ON
2	ON (interlocked with APL)

17: Interlocked with APL

0	OFF
1	ON
2	WB interlocked ON/γ OFF
3	WB interlocked OFF/γ ON

18: Transition of protective operations

0	Upper limit state for brightness
1	Brightness being reduced
2	Lower limit state for brightness
3	Brightness being increased

Note 1: The "75 Hz-2" Drive Sequence type signals and WB Adjustment Table 4 are output only when "75 Hz-2" (VFQS07) is selected for internal signals (mask signals).
When external signals are selected and the Drive Sequence type is 75 Hz, "75 Hz-1" is output because "75 Hz-1" and "75 Hz-2" are not distinguished for external signals.

[6] QPF (FUNCTION OF THE PANEL)

The command QPF is for acquiring the characteristic and the function setting value of the panel.

Command Format	Effective Operation Modes	Function	Remarks
[QPF]	Every Time	Output of status	Return data: 3 (ECO) + 69 (DATA) + 2 (CS) = 74 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QPF
1	R-REVISE setting value	1 byte	0
2	G-REVISE setting value	1 byte	0
3	B-REVISE setting value	1 byte	0
4	Reserved	3 byte	***
5	ADDRESS L1,L2 setting value	2 byte	01
6	ADDRESS L3,L4 setting value	2 byte	13
7	ADDRESS U1,U2 setting value	2 byte	32
8	ADDRESS U3,U4 setting value	2 byte	30
9	Reserved	4 byte	****
10	Streaking correction	1 byte	1
11	Full-screen black display mode	1 byte	1
12	Reserved	4 byte	****
13	PANEL RX	3 byte	512
14	PANEL RY	3 byte	512
15	PANEL GX	3 byte	512
16	PANEL GY	3 byte	512
17	PANEL BX	3 byte	512
18	PANEL BY	3 byte	512
19	Reserved	6 byte	******
20	Color sensor R coefficient	3 byte	***
21	Color sensor G coefficient	3 byte	***
22	Color sensor B coefficient	3 byte	***
23	Reserved	12 byte	** to **
CS	2 Byte	2 byte	37

1: 2: 3: RGB-REVISE setting value	
n	n: 0 to 7 (Level n)

5 to 8: ADDRESS α, β setting	
nm	n: 0 to 9 (Address α setting PHASE n)
	m: 0 to 9 (Address β setting PHASE m)

10: Streaking correction	
0	OFF
n	n: 1 to 8 (Mode n)

11: Full-screen black display mode	
0	OFF (In-phase SUS drive prohibition)
1	MODE1 (In-phase SUS drive permission)

[7] QPM (PULSE METER VALUE)

The command QPM is for acquiring the accumulated pulse count.

Command Format	Effective Operation Modes	Function	Remarks
[QPM]	Every Time	Output of status	Return data: 3 (ECO) + 40 (DATA) + 2 (CS) = 45 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QPM
1	Pulse meter B 1	8 byte	00000000
2	Pulse meter B 2	8 byte	00000000
3	Pulse meter B 3	8 byte	00000000
4	Pulse meter B 4	8 byte	00000000
5	Pulse meter B 5	8 byte	00000000
CS	2 Byte	2 byte	E7

Note:
The minimum for a returned value of the pulse meter for each block (B1-B2) is one million.

[8] QPD (POWER DOWN LOGS)

The command QPD is for acquiring data from the 8 latest power-down (PD) logs.

Command Format	Effective Operation Modes	Function	Remarks
[QPD]	Every Time	Output of status	Return data: 3 (ECO) + 80 (DATA) + 2 (CS) = 85 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QPD
1	Latest "1st PD" data	1 byte	A
2	Latest "2nd PD" data	1 byte	2
3	Data from the hour meter for the latest PD	8 byte	00010020
4	Second latest "1st PD" data	1 byte	E
5	Second latest "2nd PD" data	1 byte	9
6	Data from the hour meter for the second latest PD	8 byte	00008523
7	Third latest "1st PD" data	1 byte	4
8	Third latest "2nd PD" data	1 byte	3
9	Data from the hour meter for the third latest PD	8 byte	00004335
10	Fourth latest "1st PD" data	1 byte	2
11	Fourth latest "2nd PD" data	1 byte	0
12	Data from the hour meter for the fourth latest PD	8 byte	00000945
13	Fifth latest "1st PD" data	1 byte	4
14	Fifth latest "2nd PD" data	1 byte	0
15	Data from the hour meter for the fifth latest PD	8 byte	00000715
16	Sixth latest "1st PD" data	1 byte	A
17	Sixth latest "2nd PD" data	1 byte	2
18	Data from the hour meter for the sixth latest PD	8 byte	00000552
19	Seventh latest "1st PD" data	1 byte	A
20	Seventh latest "2nd PD" data	1 byte	0
21	Data from the hour meter for the seventh latest PD	8 byte	00000213
22	Eighth latest "1st PD" data	1 byte	D
23	Eighth latest "2nd PD" data	1 byte	0
24	Data from the hour meter for the eighth latest PD	8 byte	000001A7
CS	2 Byte	2 byte	27

• PD data	
0	No PD
2	P-POWER
3	SCAN
4	SCN-5V
6	Y-DCDC
7	Y-SUS
8	Address
A	X-DCDC
B	X-SUS
C	DIGI-DCDC
F	UNKNOWN

[9] QSD (SHUTDOWN LOGS of the Panel Section)

The command QSD is for acquiring the data from the 8 latest shutdown (SD) logs of the panel section.
For details on shutdown information “5” and after, see “[30] QNG.”

Command Format	Effective Operation Modes	Function	Remarks
[QSD]	Every Time	Output of status	Return data: 3 (ECO) + 80 (DATA) + 2 (CS) = 85 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QSD
1	Latest SD data	1 byte	1
2	Latest SD subcategory data	1 byte	0
3	Data from the hour meter for the latest SD	8 byte	00752013
4	Second latest SD data	1 byte	5
5	Second latest SD subcategory data	1 byte	0
6	Data from the hour meter for the second latest SD	8 byte	00495204
7	Third latest SD data	1 byte	2
8	Third latest SD subcategory data	1 byte	3
9	Data from the hour meter for the third latest SD	8 byte	00100355
10	Fourth latest SD data	1 byte	2
11	Fourth latest SD subcategory data	1 byte	5
12	Data from the hour meter for the fourth latest SD	8 byte	00075620
13	Fifth latest SD data	1 byte	1
14	Fifth latest SD subcategory data	1 byte	0
15	Data from the hour meter for the fifth latest SD	8 byte	00000852
16	Sixth latest SD data	1 byte	2
17	Sixth latest SD subcategory data	1 byte	2
18	Data from the hour meter for the sixth latest SD	8 byte	00000451
19	Seventh latest SD data	1 byte	0
20	Seventh latest SD subcategory data	1 byte	0
21	Data from the hour meter for the seventh latest SD	8 byte	00000000
22	Eighth latest SD data	1 byte	0
23	Eighth latest SD subcategory data	1 byte	0
24	Data from the hour meter for the eighth latest SD	8 byte	00000000
CS	2 Byte	2 Byte	7D

• SD data

0	No SD
1	SQ_LSI
2	MDU-DEVICE
3	RST2
4	Panel temperature

• SD subcategory (SQ_LSI)

0	No SD-Sub data
1	Communication error
2	Drive stop
3	BUSY
4	Version mismatching (H/S)
5	Version mismatching (H/M)
6	Version mismatching (H/I)

• SD subcategory (MDU-DEVICE)

0	No SD-Sub data
1	EEPROM
2	BACKUP
3	DAC

• SD subcategory (Panel temperature)

0	No SD-Sub data
1	TEMP1 (high temperature)
2	TEMP1 (low temperature)

5 6 7 8

[10] QMT (STATUS INFORMATION OF MTB/MR SECTION)

Temperature information / FAN rotation state / Room light sensor information on the MTB/MR section is acquired.

Command Format	Effective Operation Modes	Function	Remarks
[QMT]	Every time	Output of status	Return data: 3 (ECO) + 8 (DATA) = 11 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QMT
1	Not used. *** return	3 byte	276
2	Not used. *** return	1 byte	1
3	A/D value of room light sensor	3 byte	009
4	Level of room light sensor (Value: 1 to 5)	1 byte	5

* Returned each block.

[11] QSI (INPUT SIGNAL DATA)

The command QSI is for acquiring all data on input video signals.

Command Format	Effective Operation Modes	Function	Remarks
[QSI]	Every Time	Output of status	Return data: 3 (ECO) + 66 (DATA) + 2 (CS) = 71 Byte

Data Arrangement		Data Length	Output Example
ECO		3 Byte	QSI
1	Type of drive sequence (Note)	4 Byte	60VS
2	Type of ABL adjustment table (Note)	1 Byte	1
3	Type of WB adjustment table (Note)	1 Byte	1
4	Reserved	4 Byte	****
5	Total value of PRH	4 Byte	0256
6	Total value of PGH	4 Byte	0256
7	Total value of PBH	4 Byte	0256
8	Reserved	4 Byte	****
9	Total value of PRL	4 Byte	0512
10	Total value of PGL	4 Byte	0512
11	Total value of PBL	4 Byte	0512
12	Total value of ABL	3 Byte	128
13	V frequency distinction	4 Byte	6002
14	Reserved	4 Byte	****
15	APL acquiring data	4 Byte	1023
16	Number of SUS pulses	4 Byte	0457
17	Detection status of still picture	1 Byte	1
18	Detection status of cracking in the panel	1 Byte	1
19	Detection status of SCAN protection	1 Byte	1
20	Detection status of external protection	1 Byte	1
21	Transition of protection operations	1 Byte	0
22	Address emergency status	1 Byte	1
23	Detection status of reset operation	1 Byte	1
24	In-phase SUS mode status	1 Byte	1
25	Reserved	1 Byte	1
CS	2 Byte	2 Byte	27

18 to 20: Each protection function	
0	Setting: OFF
1	Setting: ON (during wait)
2	Setting: ON (during operation)

21: Transition of protection operations	
0	Upper limit status for brightness
1	Brightness being reduced
2	Lower limit status for brightness
3	Brightness being increased

22: Address emergency status	
0	Normal status
1	Emergency status

23: Reset operation status	
A	All reset operation
2	Interlace 1/2 reset operation
4	Interlace 1/4 reset operation
L	Reset less operation (specifications operation)

24: In-phase SUS mode status	
0	Normal status
1	In-phase SUS mode status
2	Assist status at the cancellation

Note: The types of drive sequence and ABL/WB table are output as the same data as QPW.

[12] DRV (PANEL DRIVE-POWER ON/OFF)

Panel drive-power ON/OFF (drive ON/OFF) is controllable.

Command Format	Operation		Remarks
	Effective Operation Modes	Function	
[DRV+S00]	Every time	DRIVE OFF	If a command is issued in Standby mode, and the unit is left unoperated for more than 10 seconds, the command will become void.
[DRV+S01]	Every time	DRIVE ON (default)	

Note: The function of the DRIVE OFF key on the remote control unit for servicing is the same as that of the DRVS00 command. (A function equivalent to that of the DRVS01 command is not provided for the remote control unit for servicing.)

[13] FAY/FAN (ADJUSTMENT COMMANDS PERMISSION/PROHIBITION)

The commands FAY/FAN are for prohibiting/permitting panel/MTB-adjustment commands.

Command Format	Operation		Remarks
	Effective Operation Modes	Control	
[FAY]	Normal operation mode while the power is on	Adjustment command is valid.	For details, refer to the section “6.1 [3] FUNCTIONS WHEN ENTERING THE SERVICE FACTORY MODE”.
[FAN]	During FAY	Adjustment command is invalid.	

[14] FAJ/UAJ/CBU/BCP (BACKUP FUNCTION FOR ADJUSTMENT VALUE)

When the DIGITAL Assy is to be replaced, adjustment values can be copied from the backup EEPROM to the EEPROM of the Assy for service.

Command Format	Operation		Remarks
	Effective Operation Modes	Control	
[FAJ]	During FAY	To make the status of the EEPROM on the DIGITAL Assy "adjustment completed" and copy the data to the EEPROM for backup	This takes at least 350 msec.
[UAJ]		To make the status of the EEPROM on the DIGITAL Assy "adjustment not completed"	Only the status is changed, and the real data are not erased.
[CBU]		To make the status of the EEPROM on for backup "adjustment not completed"	Only the status is changed, and the real data are not erased. However, if the status of the EEPROM on the DIGITAL Assy is "adjustment completed," the data in the EEPROM of the DIGITAL Assy will be copied to the EEPROM for backup upon POF.
[BCP]		To copy the backup data from the EEPROM for backup to the EEPROM on the DIGITAL Assy	

[15] AJA Command

This command becomes valid after the FAY command is received.

Command		Outline of Function
Function	Auxiliary	
AJA	S01	For starting automatic W/B adjustment for video signals that are input to INPUT 1
AJA	S03	For starting automatic W/B adjustment for color-difference signals that are input to INPUT 2
AJA	S04	For starting automatic W/B adjustment for PC signals that are input to INPUT 3

■ **Response format**

Order	Content	Length (BYTE)	Value	Remarks
1	STX	1	0x02	
2	Echo back	3	"AJA"	
3	S0*	3		Set the received auxiliary command.
4	Error code	2		See the table below.
5	G.LOW/Y-PD adjustment value	3		
6	B.LOW/Pb-PD adjustment value	3		
7	R.LOW/Pr-PD adjustment value	3		
8	G.HIGH/Y-DR adjustment value	3		
9	B.HIGH/Pb-DR adjustment value	3		
10	R.HIGH/Pr-DR adjustment value	3		
11	Check sum	2	(CS)	
12	ETX	1	0x03	

Error code	Error content
00	Normal termination
01	Abnormality inside the unit (not used)
02	I2C communication error (failure in settings for the peripheral devices)
03	ASIC communication error
04	Timeout (not used)
05	Setting value out of tolerable range

[16] QAP Command

Command		Outline of Function
Function	Auxiliary	
QAP		For acquiring the model name that is managed by the main microcomputer

■ **Response format**

Order	Content	Length (BYTE)	Value	Remarks	
1	STX	1	0x02		
2	Echo back	3	"QAP"		
3	Model name	18	PRO-101FD*********	50 inches	Elite model
			PRO-141FD*********	60 inches	Elite model
			KRP-500M**********	50 inches	Pioneer model
			KRP-600M**********	60 inches	Pioneer model
5	Check sum	2	(CS)		
6	ETX	1	0x03		

[17] QIS Command

Command		Outline of Function
Function	Auxiliary	
QIS		For acquiring setup data for inputs

■ **Send command**

Order	Content	Length (BYTE)	Value	Remarks
1	STX	1	0x02	
2	ID	2	"**"	
3	Command	3	"QIS"	
4	ETX	1	0x03	

■ **Response format**

Order	Content	Length (BYTE)	Value	Remarks
1	STX	1	0x02	
2	Echo back	3	"QIS"	
3	Input name for INPUT 1	1	1	See Table “Input names” below.
4	Color system for INPUT 1	1	0	See Table “Color system” below.
5	Dummy	1	*	
6	Dummy	1	*	
7	Dummy	1	*	See Table “Color decoding” below.
8	Input name for INPUT 2	1	2	See Table “Input names” below.
9	Dummy	1	*	
10	Color decoding for INPUT 2	1	1	See Table “Color decoding” below.
11	Dummy	1	*	
12	Dummy	1	*	
13	Input name for INPUT 3	1	3	See Table “Input names” below.
14	Dummy	1	*	
15	Color decoding for INPUT 3	1	1	See Table “Color decoding” below.
16	Dummy	1	*	
17	Dummy	1	*	
18	Input name for INPUT 4	1	4	See Table “Input names” below.
19	Dummy	1	*	
20	Dummy	1	*	
21	Signal type for INPUT 4	1	1	See Table “Signal types” below.
22	Color decoding for INPUT 4	1	0	See Table “Color decoding” below.
23	Input name for INPUT 5	1	5	See Table “Input names” below.
24	Dummy	1	*	
25	Dummy	1	*	
26	Signal type for INPUT 5	1	1	See Table “Signal types” below.
27	Video signal type for INPUT 5	1	0	See Table “Color decoding” below.
28	Input name for INPUT 6	1	6	See Table “Input names” below.
29	Dummy	1	*	
30	Dummy	1	*	
31	Signal type for INPUT 6	1	1	See Table “Signal types” below.
32	Color decording for INPUT 6	1	0	See Table “Color decoding” below.
33	Input name for INPUT 7	1	*	See Table “Input names” below.
34	Dummy	1	*	
35	Dummy	1	*	

Memo: As INPUTs 7 and 8 are not provided on KRP-600 model, Digits 33–43 are padded with asterisks.

■ **Response format**

Order	Content	Length (BYTE)	Value	Remarks
36	Video signal type for INPUT 7	1	*	See Table “Signal types” below.
37	Color decoding for INPUT 7	1	*	See Table “Color decoding” below.
38	Input name for INPUT 8	1	*	See Table “Input names” below.
39	Dummy	1	*	
40	Dummy	1	*	
41	Video signal type for INPUT 8	1	*	See Table “Signal types” below.
42	Color decoding for INPUT 8	1	*	See Table “Color decoding” below.
43	Reserved	16		Padding with “*”.
44	Check sum	2	(CS)	
45	ETX	1	0x03	

Memo: As INPUTs 7 and 8 are not provided on KRP-600 model, Digits 33–43 are padded with asterisks.

■ **Input names**

Value	Input name
"1"	VIDEO
"2"	CONPONENT
"3"	D-SUB
"4"	DVI
"5"	HDMI1
"6"	HDMI2
"7"	HDMI3
"8"	HDMI4
"9"	Blu-Ray
"A"	DVD
"B"	DVR
"C"	VCR
"D"	Cable
"E"	Satelite
"F"	Game
"G"	Computer

■ **Signal types**

Value	Input signal
"1"	VIDEO
"2"	PC

■ **Color systems**

Value	Color system
"0"	AUTO
"1"	PAL
"2"	SECAM
"3"	NTSC
"4"	4.43NTSC
"5"	PAL-M
"6"	PAL-N

■ **Color decoding**

Value	Color decoding
"1"	Component1
"2"	Component2
"3"	RGB

■ **Video signal types**

Value	Video input
"0"	AUTO
"1"	1(YUV422)
"2"	2(YUV444)
"3"	3(RGB16-235)
"4"	4(RGB0-255)

[18] QOS Command

Command		Outline of Function
Function	Auxiliary	
QOS		For acquiring data on optional settings

■ **Send command**

Order	Content	Length (BYTE)	Value	Remarks
1	STX	1	0x02	
2	ID	2	"**"	
3	Command	3	"QOS"	
4	ETX	1	0x03	

■ **Response format**

Order	Content	Length (BYTE)	Value	Remarks
1	STX	1	0x02	
2	Echo back	3	"QOS"	
3	Energy save	1		0: OFF, 1: SAVE1, 2: SAVE2, 3: Picture off
4	Power Management	1		0: OFF, 1: MODE1, 2: MODE2 (Sending back with 0 in the INPUT 1 and 2 concerning IP microcomputer)
5	No signal off	1		0: Disable, 1: Enable
6	No operation off	1		0: Disable, 1: Enable
7	Room light sensor	1		0: OFF, 1: ON
8	HDMI control Input setting	1		0: OFF, 1: INPUT5, 2: INPUT6, 3: INPUT7, 4: INPUT8
9	HDMI control Power off control	1		0: OFF, 1: ON
10	HDMI control Power on ready	1		0: OFF, 1: ON
11	HDMI control Hold sound status	1		0: OFF, 1: ON
12	HDMI control HD AV converter	1		0: Disable, 1: Enable
43	Reserved	15		Padding with “*”.
44	Check sum	2	(CS)	
45	ETX	1	0x03	

[19] QPI Command

Command		Outline of Function
Function	Auxiliary	
QPI		For acquiring data on picture settings

■ **Response format**

Order	Content	Length (BYTE)	Value	Remarks
1	STX	1	0x02	
2	Echo back	3	"QPI"	
3	AV. SELECTION	1		AV selection settings (See the corresponding table below.
4	CONTRAST	3		Adjustment value of the signal that is input to the main screen (An ASCII-character string converted to 3-digit decimal figures) If the adjustment value has fewer than 3 digits, the higher-order digits will be padded with zeros. If the input signal is not determined, dummy data ("***") will be added
5	BRIGHTNESS	3		
6	COLOR	3		Adjustment value of the signal that is input to the main screen (An ASCII-character string converted to 3-digit decimal figures) If the adjustment value has fewer than 3 digits, the higher-order digits will be padded with zeros. If the input signal is from the PC or is not determined, dummy data ("***") will be added.
7	TINT	3		
8	SHARPNESS	3		
9	COLOR TEMP.	1		1: LOW, 2: MID LOW, 3: MIDDLE, 4: MID HIGH, 5: HIGH, 6: Manual
10	R.HIGH(VIDEO), Red(PC)	3		Adjustment value of the signal that is input to the main screen (An ASCII-character string converted to 3-digit decimal figures) If the adjustment value has fewer than 3 digits, the higher-order digits will be padded with zeros. If the input signal is not determined or the Color Temp. setting is other than Manual, dummy data ("***") will be added.
11	G.HIGH(VIDEO), Green(PC)	3		
12	B.HIGH(VIDEO), Blue(PC)	3		
13	R.LOW	3		
14	G.LOW	3		
15	B.LOW	3		
16	GAMMA	1		Gamma setting (See the corresponding table below.)
17	FILM MODE	1		0: OFF, 1: Mode1, 2: Mode1
18	Text Optimization	1		0: OFF, 1: ON
19	DRE PICTURE	1		0: OFF, 1: LOW, 2: MDDLE, 3: HIGH
20	BLACL LEVEL	1		0: OFF, 1: ON
21	ACL	1		0: OFF, 1: ON
22	ENHANCER MODE	1		1: Soft, 2: Natural, 3: Haed
23	CTI	1		0: OFF, 1: ON
24	COLOR MANAGEMENT R (RED)	3		Adjustment value of the signal that is input to the main screen (An ASCII-character string converted to 3-digit decimal figures) If the adjustment value has fewer than 3 digits, the higher-order digits will be padded with zeros. If the input signal is from the PC or is not determined, dummy data ("***") will be added.
25	COLOR MANAGEMENT Y (YELLOW)	3		
26	COLOR MANAGEMENT G (GREEN)	3		
27	COLOR MANAGEMENT C (CYAN)	3		
28	COLOR MANAGEMENT B (BLUE)	3		
29	COLOR MANAGEMENT M (MAGENTA)	3		
30	COLOR SPACE	3		
31	3DNR	1		0: OFF, 1: LOW, 2: MDDLE, 3: HIGH
32	FIELD NR	1		0: OFF, 1: LOW, 2: MDDLE, 3: HIGH
33	BLOCK NR	1		0: OFF, 1: ON
34	MOSQUITO NR	1		0: OFF, 1: ON
35	3DYC	1		0: OFF, 1: ON
36	I-P MODE	1		0: OFF, 1: ON
37	DRIVE MODE	1		1: Standard, 2: Text, 3: Cinema
38	GAME CONTOROL PREF.	1		0: OFF, 1: ON

Order	Content	Length (BYTE)	Value	Remarks
39	BLUE ONLY MODE	1		0: OFF, 1: ON
40	Reserved	1	*	Padding with “*”.
41	Main input function	3		Input function of main screen (For details, see table below)
42	Main screen-size information	1		Main screen size (For details, see table below)
43	Check sum	2	(CS)	
44	ETX	1	0x03	

When there is no information with input signals, respond in a dummy ("***")

■ **AV selection**

Value (in response)	Mode
"0"	Standard
"1"	Dynamic
"2"	Movie
"3"	Game
"4"	Sport
"5"	Pure
"6"	User
"7"	ISF-DAY
"8"	ISF-NIGHT
"A"	Optimum
"B"	ISF-AUTO

■ **Gamma setting**

Value (in response)	Mode
1	MODE1
2	MODE2
3	MODE3
4	MODE4
5	MODE5

■ **Input function of main screen**

Input Function (in response)	Input
"IN1"	INPUT1
"IN2"	INPUT2
"IN3"	INPUT3
"IN4"	INPUT4
"IN5"	INPUT5
"IN6"	INPUT6
"IN7"	INPUT7
"IN8"	INPUT8

PRP-141FD, PRO-101FD only

* During Standby, the data that were stored upon last update will be returned.

■ **Main screen size**

Input Function (in response)	Screen Size
"0"	DOT BY DOT
"1"	4:3
"2"	FULL or FULL1080i
"3"	ZOOM
"4"	CINEMA
"5"	WIDE or WIDE1
"6"	FULL 14:9
"7"	CINEMA 14:9
"8"	FULL2 (1035i)
"A"	WIDE2
"B"	AUTO

[20] QPS Command

Command		Outline of Function
Function	Auxiliary	
QPS		For acquiring screen data

■ **Response format**

Order	Content	Length (BYTE)	Value	Remarks
1	STX	1	0x02	
2	Echo back	3	"QPS"	
3	H.POSITION	3		Adjustment value of the signal that is input to the main screen (An ASCII-character string converted to 3-digit decimal figures) If the adjustment value has fewer than 3 digits, the higher-order digits will be padded with zeros. If the input signal is not determined, dummy data ("***") will be added.
4	V.POSITION	3		
5	H.SIZE	3	***	Padding with "*".
6	V.SIZE	3	***	
7	CLOCK	3		Adjustment value of the signal that is input to the main screen (An ASCII-character string converted to 3-digit decimal figures) If the adjustment value has fewer than 3 digits, the higher-order digits will be padded with zeros. If the input signal is DVI or VIDEO, or is not determined, dummy data ("***") will be added.
8	PHASE	3		
9	Main input function	3		Input function of main screen (For details, see table below)
10	Main screen-size information	1		Main screen size (For details, see table below)
11	Check sum	2	(CS)	
12	ETX	1	0x03	

■ **Input function of main screen**

Input Function (in response)	Input	
"IN1"	INPUT1	
"IN2"	INPUT2	
"IN3"	INPUT3	
"IN4"	INPUT4	
"IN5"	INPUT5	
"IN6"	INPUT6	
"IN7"	INPUT7	PRP-141FD, PRO-101FD only
"IN8"	INPUT8	
"***"	Not yet determined (during Standby)	

■ **Main screen size**

Main screen size (in response)	Screen size
"0"	DOT BY DOT
"1"	4:3
"2"	FULL or FULL1080i
"3"	ZOOM
"4"	CINEMA
"5"	WIDE or WIDE1
"6"	FULL 14:9
"7"	CINEMA 14:9
"8"	FULL2(1035i)
"A"	WIDE2
"B"	AUTO

[21] QS1 Command

Command		Outline of Function
Function	Auxiliary	
QS1		For acquiring data on versions of the main microcomputer, IP microcomputer, ARIA, and components that are managed by the Module microcomputer

■ **Response format**

Order	Content	Length (BYTE)	Value	Remarks
	STX	1	0x02	
ECO	Echo back	3	"QS1"	
1	Resolution/size	1	F	
2	Panel generation	1	9	
3	Destination	1	*	
4	Grade	1	*	
5	Panel product form	1	A	
6	Boot version of Module microcomputer	3	-01A	
7	Program version of Module microcomputer	8	-01A""	
8	Boot version of sequence processor	3	-01Z	
9	Program version of sequence processor	8	-01Z""	
10	Panel information	8	G9_50F_2	
11	Derivative operation identification	1	*	
12	Reserver (panel section)	7	*******	
13	, (comma)	1	,	
14	Dummy 1	4	"****"	All bytes are padded with asterisks.
15	Version information of main microcomputer	12	-01MP 04	
16	Comma	1	,	Comma
17	Version information of ARIA	12	1100-A 08A	
18	Comma	1	","	Comma
19	Version information of IP microcomputer	12	*****-01	
20	Dummy 2	40		All bytes are padded with asterisks.
CS	Check sum	2	(CS)	
	ETX	1	0x03	

[22] QS4 Command

Command		Outline of Function
Function	Auxiliary	
QS4		For acquiring data on input function, input signal information, screen size and destination information of the main microcomputer

■ **Response format**

Order	Content	Length (BYTE)	Value	Remarks
1	STX	1	0x02	
2	Echo back	3	"QS4"	
3	Input function	3		Main input function (For details, see table below)
4	Input signal type	1		Input signal type (For details, see table below)
5	Vertical frequency information	1		V. frequency group of input function (For details, see table below)
6	Main screen-size information	1		Main screen size (For details, see table below)
7	Color system	3		Input signal type and color system (For details, see table below)
8	Dummy	3	"***"	
9	Input signal	9		Input signal (For details, see table below)
10	Vertical frequency (integer section)	3		Three digits of character string. Display it to 000 to 999Hz. Padding with "*" at the no signal.
11	Vertical frequency (mark)	1	"."	"." fixed
12	Vertical frequency (first decimal place)	1		One digit of character string. Display it to 000 to 999Hz. Padding with "*" at the no signal.
13	Check sum	2	(CS)	
14	ETX	1	0x03	

■ **Main input function**

Input Function (in response)	Main Input	
"IN1"	INPUT1	
"IN2"	INPUT2	
"IN3"	INPUT3	
"IN4"	INPUT4	
"IN5"	INPUT5	
"IN6"	INPUT6	
"IN7"	INPUT7	PRP-141FD, PRO-101FD only
"IN8"	INPUT8	PRP-141FD, PRO-101FD only
"***"	Not yet determined (during Standby)	

■ **Main input function**

At PC signal input		At video signal input	
Input signal type (in response)	**Signal type (state)**	**Input signal type (in response)**	**Signal type (state)**
"-"	No signal input	"-"	No signal input
"?"	OUT OF RANGE	"?"	OUT OF RANGE
"A"	640x400/720x400	"1"	SDTV / 525i (480i)
"B"	640x480	"2"	SDTV / 525p (480p)
"C"	848x480/852x480	"3"	SDTV / 625i (576i)
"D"	800x600	"4"	SDTV / 625p (576p)
"E"	832x624	"5"	HDTV / 750p (720p)
"F"	1024x768	"6"	HDTV / 1125i (1035i)
"G"	1280x768	"7"	HDTV / 1125i (1080i)
"H"	1360x768/1376x768	"8"	HDTV / 1125p (1080p)
"I"	1152x864		
"J"	1152x870		
"K"	1152x900		
"L"	1280x960		
"M"	1280x1024		
"N"	1400x1050		
"O"	1600x1200		
"P"	1920x1200		
"Z"	Others		

■ **Vertical frequency information (grouping with frequency)**

V. frequency group (in response)	V. frequency (Hz)
"-"	No signal input
"?"	OUT OF RANGE
"B"	20.0 to 28.0
"C"	28.0 to 45.0
"1"	45.0 to 54.5
"2"	54.5 to 58.2
"3"	58.2 to 63.0
"4"	63.0 to 68.0
"5"	68.0 to 73.4
"6"	73.4 to 73.9
"7"	73.9 to 80.0
"8"	80.0 to 88.5

■ **Main screen size**

Main screen size (in response)	Screen size
"0"	DOT BY DOT
"1"	4:3
"2"	FULL or FULL1080i
"3"	ZOOM
"4"	CINEMA
"5"	WIDE or WIDE1
"6"	FULL 14:9
"7"	CINEMA 14:9
"8"	FULL2(1035i)
"A"	WIDE2
"B"	AUTO

■ Color system

Color system (in response)	Signal type	Color system
"NTV"	CVBS	NTSC
"PLV"		PAL
"SCV"		SECAM
"4NV"		4.43NTSC
"PMV"		PAL M
"PNV"		PAL N
"BWV"		Distinction impossible/ no signal input
"NTS"	Y/C	NTSC
"PLS"		PAL
"SCS"		SECAM
"4NS"		4.43NTSC
"PMS"		PAL M
"PNS"		PAL N
"BWS"		Distinction impossible/ no signal input
"CBR"	COMPONENT	Y/Cb/Cr
"PBR"		Y/Pb/Pr
"RGB"		RGB
	PC ANALOG	
"DIG"	DIGITAL VIDEO	
	PC DVI	

■ Input signal

In case of PC signal

Content	Length (BYTE)	Value	Remarks
PC signal name 1 (horizontal resolution)	4		Four digits of numbers (0000 to 9999)
X	1	"X"	"X" fixed
PC signal name 2 (vertical resolution)	4		Four digits of numbers (0000 to 9999)

In case of moving picture signal

Content	Length (BYTE)	Value	Remarks
PC signal name 1 (horizontal resolution)	9		In right justify, ASCII displays an input signal. A blank part is padded with "*". The indication contents are the same as an indication call of DISPLAY.

In case of no signal

All bytes are padded with “*”.

[23] QST (GST) Command

Command		Outline of Function
Function	Auxiliary	
QST		For acquiring the data on the current status

■ **Response format**

Order	Content	Length (BYTE)	Value	Remarks
1	STX	1	0x02	
2	Echo back	3	"QST"	“GST” for the GST command
3	Generation	1	"5"	
4	Inch data	1		See table below.
5	Destination	1	"M"	
6	Power status	1		Standby/power-on status (See table below.)
7	During Standby mode: Reasons for entering Standby mode	1		See table below.
	During power on: Status of the signal displayed on the main screen			See table below.
8	Subscreen signal status	1		See table below.
9	Input function for the main screen	3		See table below.
10	Input function for the subscreen	3		See table below.
11	Main screen-size information	1		See table below.
12	Status of 2-screen display	1		See table below.
13	Temperature data 1	3	"***"	Padding with ”***”.
14	Temperature data 2	3		Temperature inside the unit (Centigrade) (T2)
15	Temperature data 3	3		Temperature inside the unit (Centigrade) (T3)
16	Temperature data 4	3		Temperature inside the unit (Centigrade) (PANEL)
17	Serial number	15		Serial number that is managed by the Module microcomputer.
18	Dummy 1	3		All digits are padded with “0”.
19	Dummy 2	2		All digits are padded with “*”.
20	HOUR METER	5		Hour value of the hour meter that is managed by the Module microcomputer. If the value has fewer than 5 digits, the higher-order digits will be padded with “0”
21	Check sum	2	(CS)	
22	ETX	1	0x03	

■ **Inch data**

Inch data (in response)	Resolution/inch information from the MD microcomputer
"3"	"1"
"4"	"2"
	"3"
	"4"
"5"	"5"
	"6"
"6"	"7"
"*"	Others

■ **Power status**

Power status (in response)	Power status
"S"	Standby
"P"	Power on

■ **Reasons for entering Standby mode (during Standby)/Status of the signal displayed on the main screen (during power on)**

During Standby		During power on	
Reasons (in response)	**Reasons**	**Signal status (in response)**	**Signal status**
"N"	Normal Standby	"N"	Normal signal input
"W"	Power management	"L"	No signal input
"S"	PD or SD	"O"	OUT OF RANGE

■ **Status of the signal displayed on the subscreen**

Signal status (in response)	Signal status
"*"	1-screen display
"N"	Normal signal input
"L"	No signal input
"O"	OUT OF RANGE

■ **Input functions for the main screen and subscreen**

Input function (in response)	Input	
"IN1"	INPUT1	
"IN2"	INPUT2	
"IN3"	INPUT3	
"IN4"	INPUT4	
"IN5"	INPUT5	
"IN6"	INPUT6	
"IN7"	INPUT7	PRO-141FD, PRO-101FD only
"IN8"	INPUT8	

* During Standby, the data that were stored upon last update will be returned.

■ **Main screen size**

Main screen size (in response)	Screen size
"0"	DOT BY DOT
"1"	4:3
"2"	FULL or FULL1080i
"3"	ZOOM
"4"	CINEMA
"5"	WIDE or WIDE1
"6"	FULL 14:9
"7"	CINEMA 14:9
"8"	FULL2 (1035i)
"A"	WIDE2
"B"	AUTO

■ **Status of 2-screen display**

Status of 2-screen display (in response)	2-screen display
"0"	OFF (1-screen display)
"2"	PinP (Lower right)
"3"	PinP (Upper right)
"4"	PinP (Upper left)
"5"	PinP (Lower left)
"1"	SIDE BY SIDE 1

[24] QSU Command

Command		Outline of Function
Function	Auxiliary	
QSU		For acquiring data on the main volume, subvolume for each function, and status of audio muting

■ **Response format**

Order	Content	Length (BYTE)	Value	Remarks
1	STX	1	0x02	
2	Echo back	3	"QSU"	
3	Main volume	3		Value of the current main volume If the value of the current main volume has fewer than 3 digits, the higher-order digits will be padded with zeros
4	Status of audio muting	1		Status of current audio muting (See table below.)
5	Subvolume for INPUT 1	3		Value of the subvolume for each function If the value of the current main volume has fewer than 3 digits, the higher-order digits will be padded with zeros
6	Subvolume for INPUT 2	3		
7	Subvolume for INPUT 3	3		
8	Subvolume for INPUT 4	3		
9	Subvolume for INPUT 5	3		
10	Subvolume for INPUT 6	3		
11	Input data for AUDIO INPUT 1	3	IN*	IN1 to IN6: INPUT 1 to 6
12	Input data for AUDIO INPUT 2	3	IN*	IN1 to IN6: INPUT 1 to 6
13	Reserved	3	***	
14	Reserved	1	*	
15	Check sum	2	(CS)	
16	ETX	1	0x03	

■ **Audio muting statu**

Audio muting (in response)	Audio uting
"0"	OFF
"1"	ON

[25] QWB Command

Command		Outline of Function
Function	Auxiliary	
QWB		For acquiring white balance data

■ **Response format**

Order	Content	Length (BYTE)	Value	Remarks
1	STX	1	0x02	
2	Echo back	3	"QWB"	
3	R.HIGH	3		Adjustment value of the signal that is input to the main screen (An ASCII-character string converted to 3-digit decimal figures) If the adjustment value has fewer than 3 digits, the higher-order digits will be padded with zeros. If the input signal is not determined, dummy data ("***") will be added.
4	G.HIGH	3		
5	B.HIGH	3		
6	R.LOW	3		
7	G.LOW	3		
8	B.LOW	3		
9	Main input function	3		See table below.
10	Main screen size	1		See table below.
11	Check sum	2	(CS)	
12	ETX	1	0x03	

■ **Input function of main screen**

Input Function (in response)	Input	
"IN1"	INPUT1	
"IN2"	INPUT2	
"IN3"	INPUT3	
"IN4"	INPUT4	
"IN5"	INPUT5	
"IN6"	INPUT6	
"IN7"	INPUT7	PRP-141FD, PRO-101FD only
"IN8"	INPUT8	PRP-141FD, PRO-101FD only
"***"	Not yet determined (during Standby)	

■ **Main screen size**

Main screen size (in response)	Screen size
"0"	DOT BY DOT
"1"	4:3
"2"	FULL or FULL1080i
"3"	ZOOM
"4"	CINEMA
"5"	WIDE or WIDE1
"6"	FULL 14:9
"7"	CINEMA 14:9
"8"	FULL2 (1035i)
"A"	WIDE2
"B"	AUTO

[26] RIP Command

Command		Outline of Function
Function	Auxiliary	
RIP		For reading out IP address data from the IP microcomputer

■ **Response format**

Order	Content	Length (BYTE)	Value	Remarks
1	STX	1	0x02	
3	Echo back	3	"RIP"	
4	DHCP	1		0: ON, 1: OFF
5	IP address (1st byte)	3		If the value has fewer than 3 digits, the higher-order digits will be padded with zeros.
6	IP address (2nd byte)	3		
7	IP address (3rd byte)	3		
8	IP address (4th byte)	3		
9	Subnet mask (1st byte)	3		
10	Subnet mask (2nd byte)	3		
11	Subnet mask (3rd byte)	3		
12	Subnet mask (4th byte)	3		
13	Default gateway (1st byte)	3		
14	Default gateway (2nd byte)	3		
15	Default gateway (3rd byte)	3		
16	Default gateway (4th byte)	3		
17	Reserved	5		Padding with "*"
18	TCP CONTROL PORT	5		If the value has fewer than 5 digits, the higher-order digits will be padded with zeros.
19	UDP CONTROL PORT	5		If the value has fewer than 5 digits, the higher-order digits will be padded with zeros.
20	TCP CONNECTION LIMIT	1		0: ON, 1: OFF
21	LIMIT TIME	3		If the value has fewer than 3 digits, the higher-order digits will be padded with zeros.
22	LED	1		0: ON, 1: OFF
23	Reserved	12		Padding with "*"
24	Check sum	2	(CS)	
25	ETX	1	0x03	

[27] RMA Command

Command		Outline of Function
Function	Auxiliary	
RMA		For reading out the MAC address from the IP microcomputer

■ **Send command**

Order	Content	Length (BYTE)	Value	Remarks
1	STX	1	0x02	
2	ID	2	"**"	
3	Command	3	"RMA"	
12	ETX	1	0x03	

■ **Response format**

Order	Content	Length (BYTE)	Value	Remarks
1	STX	1	0x02	
2	Echo back	3	"RMA"	
3	MAC address (1st byte)	2		If the value has only one digit, the higher-order digit will be padded with a zero.
4	MAC address (2nd byte)	2		
5	MAC address (3rd byte)	2		
6	MAC address (4th byte)	2		
7	MAC address (5th byte)	2		
8	MAC address (6th byte)	2		
9	Reserved	11		Padding with "*"
10	Check sum	2	(CS)	
11	ETX	1	0x03	

[28] FST Command

SIGNAL FORMAT	SFT S**	Type 1 (S01)	Type 2 (S02)	Type 3 (S03)	Type 4 (S04)	Type 5 (S05)	Type 6 (S06)	Type 7 (S07)	Type 8 (S08)	Type 9 (S09)	Type 10 (S10)
H mode: 3 **V mode: 5**	**Group A**	VGA@50 (640x480@50) Mode 74	WVGA@50 (848x480@50) Mode 76								
H mode: 4 **V mode: 6**	**Group B**	VGA@60 (640x480@60) Mode 5	480P60 (720x480P@60) Mode 138	WNEC1 (848x480@60) Mode 19							
H mode: 6 or 7 **V mode: 4**	**Group C**	XGA@48 (1024x768@48) Mode 68	WXGA@48 (1280x768@48) Mode 78								
H mode: 7 **V mode: 5**	**Group D**	XGA@50 (1024x768@50) Mode 69	WXGA@50 (1280x768@50) Mode 79								
H mode: 7 **V mode: 6**	**Group E**	720P60 (1280x720P@60) Mode 132	WXGA@56.2 (1280x768@56.2) Mode 52								
H mode: 8 **V mode: 6**	**Group F**	XGA@60 (1024x768@60) Mode 24	WXGA@60CVT (1280x768@60) Mode 23	WNEC2 (1360x768@60) Mode 22							
H mode: 9 **V mode: 6**	**Group G**	WXGA@60 (1280*800@60) Mode 21	XGA-N@60 (1152x864@60) Mode 84								
H mode: 10 **V mode: 6**	**Group H**	WXGA 1366x768@60 Mode 67	Apple19 (1440x900@60) Mode 89	XGA-N (1280*960@60) Mode 63	SXGA (1280x1024@60) Mode 29	SXGA+@60 (1400x1050@60(CVT)) Mode 131	WSXGA (1680*1050@60) Mode 38	1080P60 (1920x1080P@60) Mode 138	UXGA@60 (1600x1200@60) Mode 54	WSXGA+ (1920*1200@60) Mode 81	WUXGA (1920*1200RB@60) Mode 88
H mode: 10 **V mode: 7**	**Group I**	XGA@70 (1024x768@70) Mode 25	XGA@72 (1024x768@72) Mode 70	W-XGA@70 (1280x768@72) Mode 66	W-XGA@72 (1280x768@72) Mode 130						
H mode: 10 **V mode: 8**	**Group J**	XGA@75 (1024x768@75) Mode 26	XGA-NEW (1152x864@75) Mode 51								

"1920*1200RB@60" is Reduce blanking signal.

[29] WIP Command

Command		Outline of Function
Function	Auxiliary	
WIP		For setting the IP address in the IP microcomputer

■ **Send command**

Order	Content	Length (BYTE)	Value	Remarks
1	STX	1	0x02	
2	ID	2	"**"	
3	Command	3	"WIP"	
4	DHCP	1		0: ON, 1: OFF
5	IP address (1st byte)	3		If the value has fewer than 3 digits, the higher-order digits will be padded with zeros.
6	IP address (2nd byte)	3		
7	IP address (3rd byte)	3		
8	IP address (4th byte)	3		
9	Subnet mask (1st byte)	3		
10	Subnet mask (2nd byte)	3		
11	Subnet mask (3rd byte)	3		
12	Subnet mask (4th byte)	3		
13	Default gateway (1st byte)	3		
14	Default gateway (2nd byte)	3		
15	Default gateway (3rd byte)	3		
16	Default gateway (4th byte)	3		
17	Reserved	5		Padding with "*"
18	TCP CONTROL PORT	5		If the value has fewer than 5 digits, the higher-order digits will be padded with zeros.
19	UDP CONTROL PORT	5		If the value has fewer than 5 digits, the higher-order digits will be padded with zeros.
20	TCP CONNECTION LIMIT	1		0: ON, 1: OFF
21	LIMIT TIME	3		If the value has fewer than 3 digits, the higher-order digits will be padded with zeros.
22	LED	1		0: ON, 1: OFF
23	Reserved	12		Padding with "*"
24	Check sum	2	(CS)	
25	ETX	1	0x03	

■ **Response format**

Order	Content	Length (BYTE)	Value	Remarks
1	STX	1	0x02	
2	Echo back	3	"WIP"	
3	ETX	1	0x03	

Note: When this command is received, the setting-item data will be stored. When the setting is changed, the IP microcomputer will be reset according to the IP reset sequence, after two seconds from the save is completed.

[30] QNG Command

Command		Outline of function
Function	Auxiliary	
QNG		For acquiring the 8 latest logs of shutdowns managed by the main microcomputer

■ **Response format**

Order	Content	Length (BYTE)	Value	Remarks
1	STX	1	0x02	
2	Echo back	3	"QNG"	
3	Data on the latest shutdown	12		Causes for the latest 8 shutdowns, hour-meter and temperature data when each shutdown was generated (See the table below for details.)
4	Data on the 2nd latest shutdown	12		
5	Data on the 3rd latest shutdown	12		
6	Data on the 4th latest shutdown	12		
7	Data on the 5th latest shutdown	12		
8	Data on the 6th latest shutdown	12		
9	Data on the 7th latest shutdown	12		
10	Data on the 8th latest shutdown	12		
11	Check sum	2	(CS)	
12	ETX	1	0x03	

■ **Shutdown (SD) data**

Order	Content	Length (BYTE)	Value	Remarks
1	SD category data	1		SD category data (See the table below for details.) "0" when no SD was generated.
2	SD subcategory data	1		SD category data (See the table below for details.) "0" when no SD was generated or with no subcategory
3	HOUR METER	5		Hour-meter value (in hours) managed by the main microcomputer If the value has fewer than 5 digits, the higher-order digits will be padded with zeros.
4	Dummy	2		Both bytes are padded with asterisks.
5	Temperature data	3		Temperature value in Centigrade when the SD was generated If the temperature has fewer than 3 digits, the higher-order digits will be padded with zeros. "0" when no SD was generated.

■ **SD category/SD subcategory**

SD category (response)	Cause for shutdown	w/wo subcategory	SD subcategory (response)	Cause denoted by subcategory
"0"	No SD (normal)	Without subcategory	"0"	
"5"	Short-circuit of speakers	Without subcategory	"1"	
"6"	Failure in communication with the Module microcomputer	Without subcategory	"1"	
"7"	Failure in 3-wire serial communication	With subcategory	"2"	Failure in ARIA communication
			"3"	Failure in IP microcomputer communication
"8"	Failure in IIC communication	With subcategory	"3"	Failure in audio IC communication
			"4"	Failure in RGB Switch communication
			"5"	Failure in VDEC communication
			"7"	Failure in A/D communication
			"8"	Failure in HDMI receiver
			"K"	Failure in temperature sensor communication
			"L"	Failure in extension IO communication
"9"	Other abnormalities	Without subcategory	"0"	
"A"	FAN stop	With subcategory	"1"	Stop of the fan for the power supply system
			"2"	Stop of the fan for the drive system
"B"	Abnormally high temperature	Without subcategory	"0"	Abnormally temperature
"D"	Abnormal power supply voltage	Without subcategory	"2"	Abnormal power supply voltage
"F"	Abnormality in Main EEPROM	Without subcategory	"0"	Abnormality in Main EEPROM

5.10 IP CONTROL

1. Overview of Functions

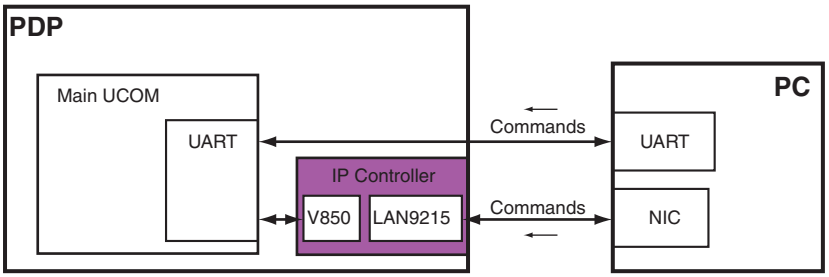
Conventionally, control commands for the PDP were transmitted via the UARTs. Mounting of the Ethernet controller (LAN9215) and the IP microcomputer (V850ES/JG2) enables the Ethernet-UART conversion function, with which control commands for the PDP are transmitted via Ethernet then relayed by the IP microcomputer. Thus, control of the PDP via Ethernet is enabled. Furthermore, as a dedicated application is required for transmission of control commands via Ethernet, the following functions have been provided for simple controlling and monitoring of the application:

Web control function:

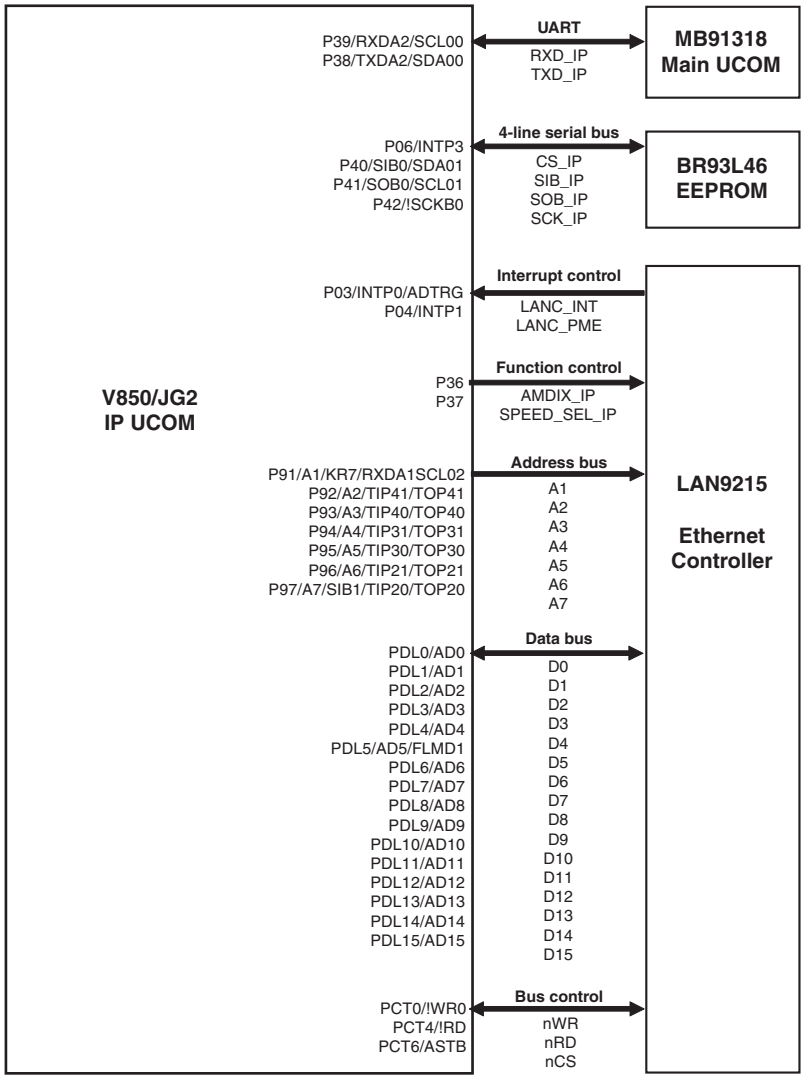
- To control the PDP from the PC using the browser, the Web server is implemented in the memory built into the IP micro computer.

Notification by e-mail function

- The IP microcomputer monitors operation status of the PDP via UART and notifies users any problem, if it occurs, by e-mail.



System Control Diagram



2. Protocol

[IP Setting]

Item	Setting	Remarks
LAN	10base-T/100base-TX	
TCP/UDP	TCP/UDP	
DHCP	ON (default)	Selectable on GUI menu
IP Address	192.168.123.2 (When DHCP setting is off)	Selectable on GUI menu
Sub net musk	255.255.255.0 (default)	Selectable on GUI menu
Default gateway	192.168.1.254 (default)	Selectable on GUI menu
MAC address	–	Confirmable MAC address on GUI menu.

* GUI menu: IP Control Setting

[Protocol]

From the PC to the display
(1) Sending one command at a time:

ID (2 byte)	COMMAND (3 byte to 6 byte)

(2) Sending numerical direct commands:

ID (2 byte)	COMMAND (3 byte)	ARGUMENT (3 byte)

ID, COMMAND, ARGUMENT are transmitted as ASCII characters.

From the display to a PC
(1) Echo back (Normal response)
Command received and returned but the ID is not returned.

COMMAND (3 byte)

Received command is a numerical direct effect command and numerical data is returned:

COMMAND (3 byte)	ARGUMENT (3 byte)

(2) Error (Abnormal response)
Received command is a non-corresponding command, “ERR” is returned:

ERR (3 byte)

Received command cannot be processed (when PON is received when the power is already ON, etc.), “XXX” is returned:

XXX (3 byte)

[Debug mode]

Send “OSR” commands via IP or RS-232C, then command line that PDP receive is display on screen.

3. Use of the Web Control Function

You can access and control the panel from the PC using a web browser. To use this option, follow the directions below.

- For browsing, use the Internet Explorer. Using any other web browser can cause a distorted image or imperfect contents to appear.
- From the Internet Explorer “Tools” menu, click “Internet Options” to open the General tab. Click “Settings…” in the “Temporary Internet Files” section to select “Every time you start Internet Explorer” under “Check for newer versions of stored pages:”.

Display Settings

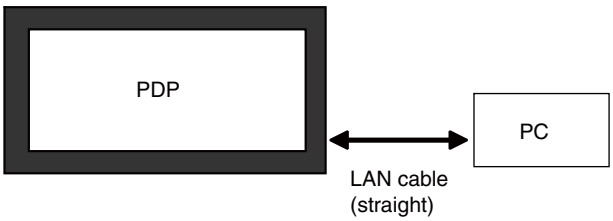
When switching browser screens, find the needed screen from the list on the left. Do not use browser buttons and menus, such as Previous Page, Next Page, History and Bookmark. Using these buttons and menus to switch the screens causes an imperfect screen to appear. To select a browser, follow the steps below.

1) Enter the obtained IP Address in the browser’s address box.

2) Enter “admin” on the password entry screen.

(Reference) Setting examples when the PDP and PC are directly connected

To access the PDP from the PC via a Web browser, settings are required for both the PDP and PC.
The setting items differ depending on the system environment. Setting examples when the PDP and PC are directly connected, which is the simplest form of the system, are described below:



<Settings on the PDP>

Select HOME MENU, Control Setup, then IP Control Setting, in that order.
- Set IP Control to Enable.
- Set DHCP to Off.
- Check that the IP address is set to “192.168.123.002.”
- Check that the Subnet mask is set to “255.255.255.000.”

<Settings on the PC>

Open Properties for the Internet protocol (TCP/IP).
- Use the following IP address:
- Set the IP address to “192.168.123.1.”
- Set the Subnet mask to “255.255.255.0.”

Start up Internet Explorer.
- Enter http://(IP address of the PDP) (http://192.168.123.2/).
- On the password input screen, enter “admin.”

Note: If any setting is changed on the PDP, restore the original setting after servicing is finished.

4. Service Screen

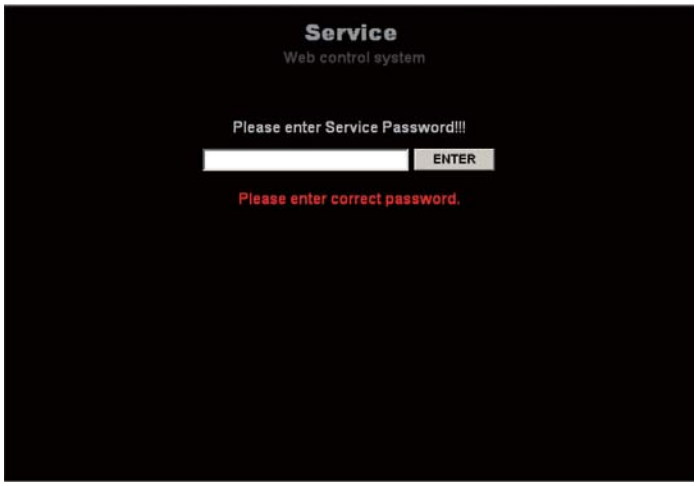
How to display the Service screen

To access the Service screen, enter “http://IP address/svc/kuro_srvc.html” in the address box of Internet Explorer. The password screen is displayed.

Authentication by password

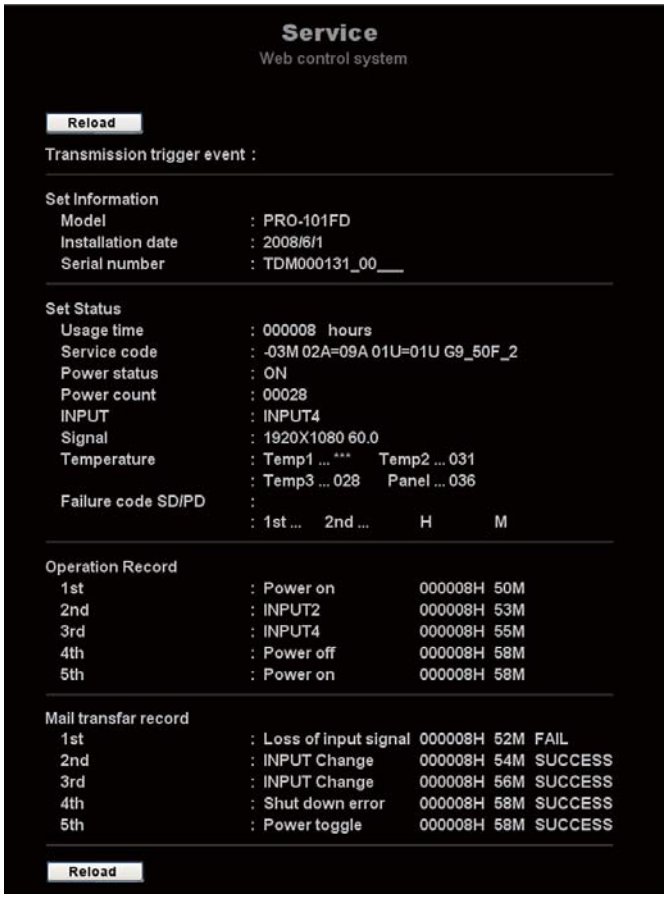
On the password screen, enter “9G08M” in the password input box at the center then click on the ENTER button. The Service Screen 1 is displayed.

If a wrong password is input, the message “Wrong password! Please enter correct password!” is displayed.



Service Screen 1

<Screen example>



5. Notification by E-mail Function

From the main microcomputer, the IP microcomputer reads data on generation of events, for which it has been set to post notice on the Web page beforehand. If an event is generated, the user in the remote location will be notified by e-mail.

Inquiry regarding event generation
Every 59 seconds, the IP microcomputer inquires of the main microcomputer if any event has been generated. If there are any, it sends e-mail to the mail address that has been set on the E-Mail Setup screen.

Format of e-mail to be sent

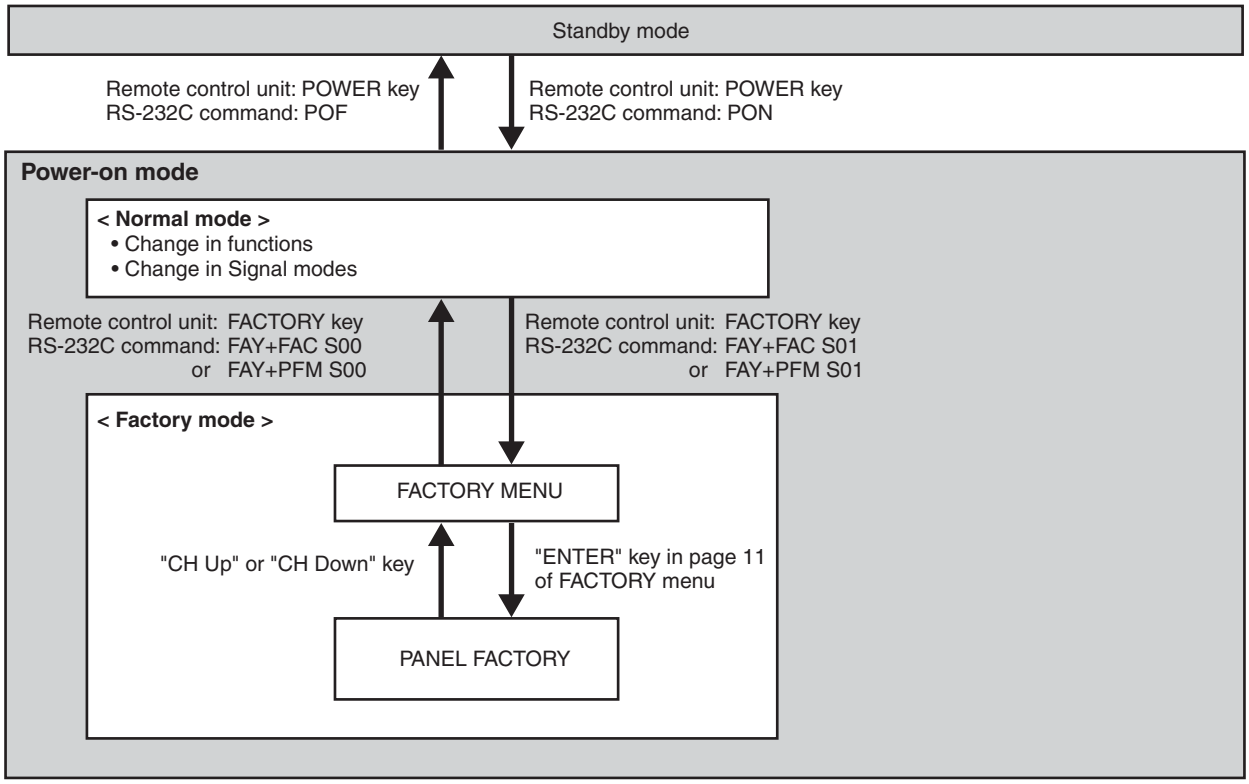
```
Subject :PDP Alert PDP-KWS Power down
Transmission trigger event        :Power down
PDP model                 PDP-509
PDP name                  PDP-KWS
PDP location              Kawasaki plant 10F
Installation date         2008/09/24
Serial number             123456789
Usage time                2000 hours
Service code              001A001K001B002K001A
Power status              OFF
Power count               00000010
Input                     Input1
Signal                    1024x768     58.2-63.0 Hz
Temperature               Temp1 :24    Temp2 :32
                          Temp3 :27    Panel :54
Failure information   SD/PD    :SD
   1st      :01     2nd     :05          000250H    30M
Operation record
                1st       power on       000050H    30M
                2nd       power off      000080H    10M
                3rd       Input1         000090H    05M
                4th       power on       000130H    00M
                5th       input2         000250H    00M
```

- The event that was notified via the E-Mail notification function is not displayed on the Service screen for the Web control function.

6. SERVICE FACTORY MODE
6.1 OUTLINE OF THE SERVICE FACTORY MODE

Operations during Service Factory mode are described here.

[1] TRANSITION DIAGRAM OF SERVICE FACTORY MODE



Note: The FACTORY MENU starts with "6.2 [1-11] PANEL FACTORY".

[2] HOW TO ENTER/EXIT SERVICE FACTORY MODE

■ **How to enter Service Factory Mode**

By using a PDP service remote control)
- PDP service remote control : Press [FACTORY] key.
- Supplied remote control unit : This model, can not enter the Service Factory Mode by operating the supplied remote control unit keys.

By issuing RS-232C commands)
- During normal Standby mode : Issue [PON] then [FAY] + [FAC S01].
- During normal operation mode : Issue [FAY] then [FAC S01].

■ **How to exit Service Factory Mode**

By using a PDP service remote control)
- PDP service remote control : press [FACTORY] key.
- Supplied remote control unit : Press the POWER key to enter Standby mode then press the POWER key again to turn the unit on.

By issuing RS-232C commands)
- Issue [FAY] then [FAC S00] + [FAN].

[3] FUNCTIONS WHEN ENTERING THE SERVICE FACTORY MODE

■ Fuctions whose setting are set to OFF

The settings for the following functions are set to OFF when Service Factory mode is entered :

Function	Remarks
2-Screen Operation	Input function set on the main side is selected.
FREEZE	Freeze is temporarily released.
Auto size, Side Mask	It is not performed during Factory mode.
ORBITER, Mask control	Central value operation (ORBITER), Release (Mask control)
Room light sensor	Turn off the detecting operation (Setting data will be retained.)

■ User data

User data will be treated as follows :

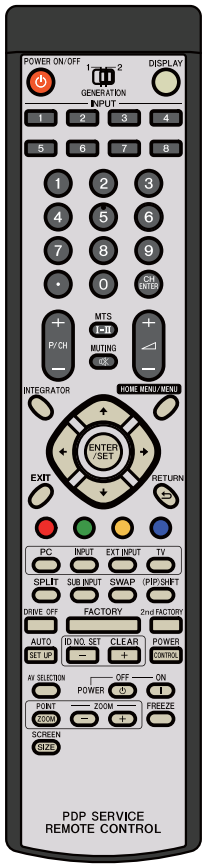
- Audio adjustment data will not change.
- The display size, display position, clock, and divider will not change.
- The setting for the blue LED will not change.
- Operation of the sleep timer will continue.
- The signal-format setting items for various input settings (HDMI setting, signal format, etc.) must be the same as those for the user settings.

[4] REMOTE CONTROL CODE IN SERVICE FACTORY MODE

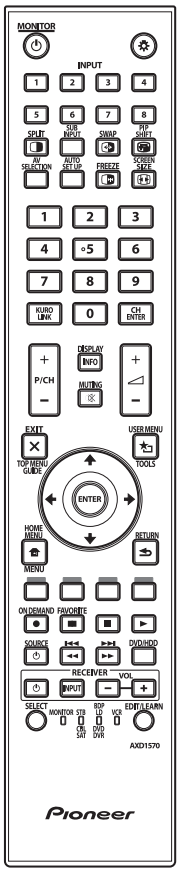
Key functions of the remote control unit on the FACTORY MENU are shown in the table below.
For details on key functions of the remote control unit in PANEL FACTORY, see “Remote Control Codes in Panel Factory Mode” in “6.2[2] PANEL FACTORY (+).”

Remote Control Keys	Main function	Remarks
⬆ (UP)	For moving the cursor	To move the cursor to upper items
⬇ (DOWN)	For moving the cursor	To move the cursor to lower items
⬅ (LEFT)	For moving the cursor, decreasing the set value, or changing the setting	To decrease an adjustment value or change the setting of a selected item
➡ (RIGHT)	For moving the cursor, increasing the set value, or changing the setting	To increase an adjustment value or change the setting of a selected item
INPUT	For selecting the inputs (The inputs change cyclically.)	To change the inputs cyclically
INPUT 1 to 8	For selecting the inputs	To directly select an input (1-8). INPUT 7 and INPUT 8 are available only for the Elite models.
P/CH+	For changing pages	To move to the next page
P/CH-	For changing pages	To move to the previous page
DRIVE OFF (Note1)	For turning the panel drive off	To turn the drive off
POWER ON/OFF	For turning the power off	To turn the power off
FACTORY (Note 2)	For turning the Factory menu on or off	To turn the Factory menu on or off

Note 1: If you wish to turn the unit on with the drive off, press the DRIVE OFF key then within 10 seconds press the POWER ON/OFF key. If the unit is left unoperated 10 seconds or more after the DRIVE OFF key is pressed in Standby mode, the Drive Off command will become invalid.
Note 2: Upon opening of the Factory menu, Page 11 is displayed.



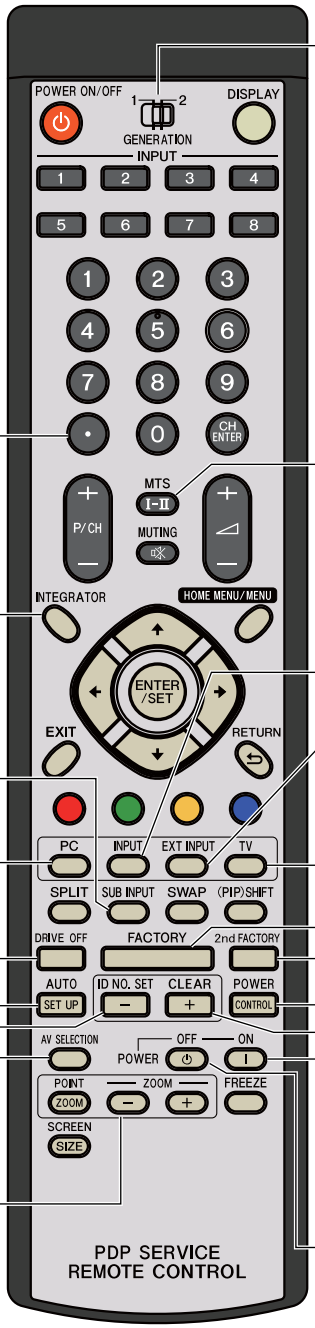
PDP service
remote control



Supplied
remote control

[5] PDP SERVICE REMOTE CONTROL

- The keys labeled with the same names on the service remote control unit have the same functions as those of the supplied remote control unit. (See "2.3 PANEL FACILITIES.")
- For the keys not provided on the supplied remote control unit, see the explanations below:



GENERATION switch for remote control codes
This switch selects the generation of remote control codes to be transmitted:
1: The old-generation codes are transmitted.
2: The new-generation codes are transmitted.
With this generation plasma display, set the switch to 2.

• (Dot)
Not used with this model.

MTS
Not used with this model.

INTEGRATOR
Press this key to enter Integrator mode.

INPUT
Press this key to cyclically change the input source.

EXT INPUT
Not used with this model.

SUB INPUT
This switches input signals for the subscreen during 2-screen mode.

PC
Not used with this model.

TV
Not used with this model.

DRIVE OFF
Press this key to turn off the panel drive.
For details on how to cancel this command, see the explanation for the DRV command.

FACTORY
Press this key to enter Factory mode.

2nd FACTORY
Not used with this model.

AUTO SETUP
Use this key for automatic setup, such as the display position setting when an analog PC signal is input.

POWER CONTROL
This toggles energy-save operations.

ID NO. SET
Not used with this model.

CLEAR
Not used with this model.

POWER ON
Press this key to turn on the unit.
This key cannot turn the unit off.

AV SELECTION
Press this key to switch the AV selection.

POWER OFF
Press this key to turn off the unit.
This key cannot turn the unit on.

POINT ZOOM
Not used with this model.

ZOOM +/-
Not used with this model.

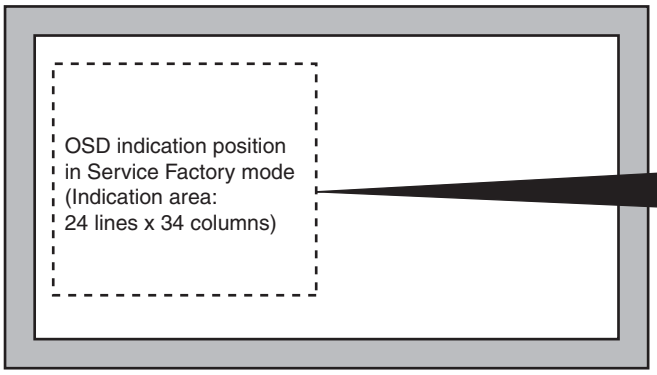
[6] FACTORY HIERARCHICAL TABLE

Large Item	Middle Item	Small Item	Variable / Adjustment Range	Remarks
6.2 [1] INFORMATION				
	[1-1] VERSION (1)*			
	[1-2] VERSION (2)			
	[1-3] OPTION	CLEAR <=>	NO <=> YES	
	[1-4] MONITOR INFORMATION			
	[1-5] MAIN NG			
	[1-6] HDMI SIGNAL INFO 1			
	[1-7] HDMI SIGNAL INFO 2			
	[1-8] VDEC SIGNAL INFO			
	[1-9] SYNC DET 1			
	[1-10] SYNC DET 2			
	[1-11] PANEL FACTORY			
6.2 [2] PANEL FACTORY (+)				
	[2-1] PANEL INFORMATION			
	[2-2] PANEL WORKS			
	[2-3] POWER DOWN			
	[2-4] SHUT DOWN			
	[2-5] PANEL-1 ADJ (+)	VOL SUS <=>	000 to 255	
		VOL OFFSET <=>	000 to 255	
		VOL RST P <=>	000 to 255	
		VOL XPOFS1 <=>	000 to 255	
		VOL XPOFS2 <=>	000 to 255	
		VOL YKNOFS1 D <=>	000 to 255	
		VOL YKNOFS3 D <=>	000 to 255	
		VOL YKNOFS4 D <=>	000 to 255	
		VOL YKNOFSA D <=>	000 to 255	
		RESET1ST_KSB <=>	112 to 144	
		RESET2ND_KSB <=>	112 to 144	
		YSTL_1SF_KSB <=>	112 to 144	
		YSTL_1SF_HZ <=>	112 to 144	
		XSUS_1ST_B <=>	112 to 144	
		YSUS_2ND_B <=>	112 to 144	
		XSUS_3RD_B <=>	112 to 144	
		YSUS_B <=>	112 to 144	
		XSUS_B <=>	112 to 144	
		YSTL_KSB <=>	112 to 144	
		YSTL_HZ <=>	112 to 144	
		YSTL_2SF_KSB <=>	112 to 144	
		YSTL_2SF_HZ <=>	112 to 144	
		YSTL_FMR_KSB <=>	112 to 144	
		SCAN ADRS ADJ <=>	112 to 144	
		SUS FREQ <=>	<=> MODE 1 to MODE 8 <=>	
	[2-6] PANEL-2 ADJ (+)	R-HIGH <=>	000 to 999	
		G-HIGH <=>	000 to 999	
		B-HIGH <=>	000 to 999	
		R-LOW <=>	000 to 999	
		G-LOW <=>	000 to 999	
		B-LOW <=>	000 to 999	
		ABL <=>	000 to 255	
	[2-7] PANEL FUNCTION (+)	R-LEVEL <=>	<=> LV-0 to LV-7 <=>	
		G-LEVEL <=>	<=> LV-0 to LV-7 <=>	
		B-LEVEL <=>	<=> LV-0 to LV-7 <=>	
		ADDRESS L1 <=>	<=> PH0 to PH9 <=>	
		ADDRESS L2 <=>	<=> PH0 to PH9 <=>	
		ADDRESS L3 <=>	<=> PH0 to PH9<=>	
		ADDRESS L4 <=>	<=> PH0 to PH9 <=>	
		ADDRESS U1 <=>	<=> PH0 to PH9 <=>	
		ADDRESS U2 <=>	<=> PH0 to PH9 <=>	
		ADDRESS U3 <=>	<=> PH0 to PH9 <=>	
		ADDRESS U4 <=>	<=> PH0 to PH9<=>	
		STK MODE <=>	OFF <=> MODE1 to MODE8 <=>	
		FULL BLACK <=>	MODE1 <=> OFF	
		PANEL RX <=>	000 to 999	
		PANEL RY <=>	000 to 999	
		PANEL GX <=>	000 to 999	
		PANEL GY <=>	000 to 999	
		PANEL BX <=>	000 to 999	
		PANEL BY <=>	000 to 999	
		CLS R <=>	000 to 255	
		CLS G <=>	000 to 255	
		CLS B <=>	000 to 255	

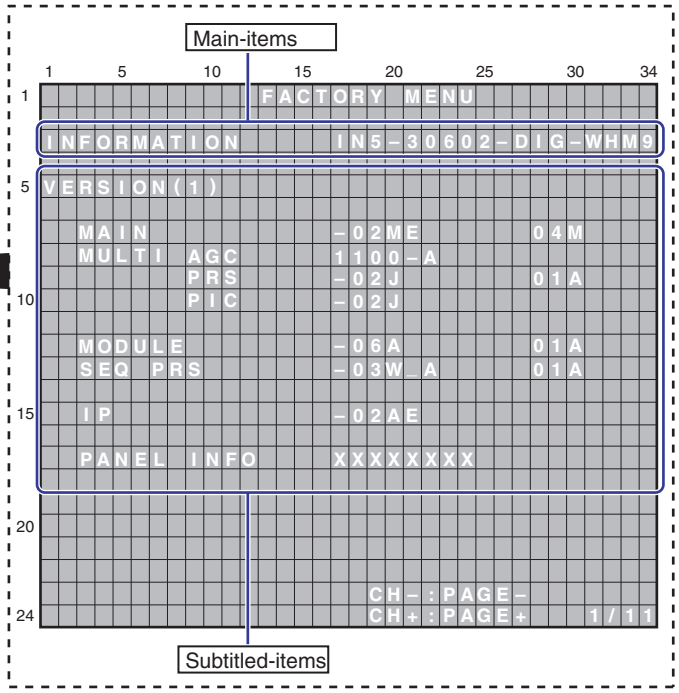
Large Item	Middle Item	Small Item	Variable / Adjustment Range	Remarks
6.2 [2] PANEL FACTORY (+)				
	[2-8] ETC. (+)	BACKUP DATA <=>	NO OPRT <=> TRANSFER/ERR	
		DIGITAL EEPROM <=>	NO OPRT <=> DELETE/REPAIR	
		PD INFO. <=>	NO OPRT <=> CLEAR	
		SD INFO. <=>	NO OPRT <=> CLEAR	
		HR-MTR INFO. <=>	NO OPRT <=> CLEAR	
		PM/B1-B5 <=>	NO OPRT <=> CLEAR	
		P COUNT INFO. <=>	NO OPRT <=> CLEAR	
		MAX TEMP. <=>	NO OPRT <=> CLEAR	
		MIRROR <=>	OFF <=> MODE1 to MODE3 <=>	
		CLS <=>	OFF <=> ON	
	[2-9] RASTER MASK SETUP (+)	MASK OFF	<=> 50V <=> 60V <=> 60P <=> 72V <=> 75V1 <=> 75V2 <=>	
		RST MASK 01 <=>		
		• • •		
		RST MASK 25 <=>		
	[2-10] PATTERN MASK SETUP (+)	MASK OFF	<=> 50V <=> 60V <=> 60P <=> 72V <=> 75V1 <=> 75V2 <=>	
		PTN MASK 01 <=>		
		• • •		
		PTN MASK 49 <=>		
	[2-11] COMBI MASK SETUP (+)	MASK OFF	<=> 50V <=> 60V <=> 60P <=> 72V <=> 75V1 <=> 75V2 <=>	
		CMB MASK 01 <=>		
		• • •		
		CMB MASK 17 <=>		

[7] INDICATIONS IN SERVICE FACTORY MODE

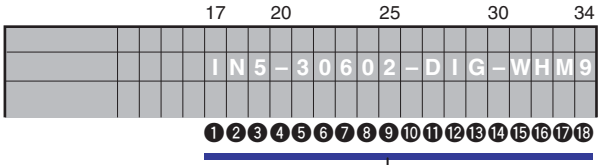
■ OSD Indications Position of Service Factory Mode



The menus for Service Factory mode are displayed at the position indicated with dashed lines on the screen.



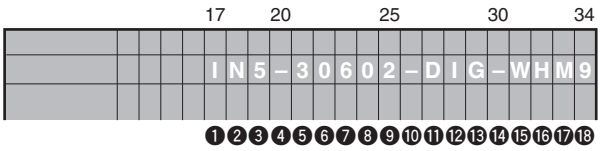
■ Main-item indications of INFORMATION



❶ to ⓲ : Indication items and meaning

	Meaning
❶	Input function: Fixed at "I"
❷	Input function: Fixed at "N"
❸	Input function (1 to 8)
❹	Fixed at " - " (hyphen)
❺	SIG mode
❻	SIG mode
❼	SIG mode
❽	SIG mode
❾	Screen size
❿	" - " fixed (hyphen)
⓫	Color system and signal type: 3 characters
⓬	
⓭	
⓮	" - " fixed (hyphen)
⓯	Option (Destination: "WHM" fixed)
⓰	
⓱	
⓲	Option (Panel genaration: Fixed at "9")

■ Main-item indications of INFORMATION



⓫ to ⓭ : Color system and Signal type

OSD	Description	
NTV	Composite input	NTSC
PLV		PAL
PMV		PAL M
PNV		PAL N
P6V		PAL 60
SCN		SECAM
4NV		4.43NTSC
BWV		BLACK/WHITE
CBR*	Y/Cb/Cr input	
PBR*	Y/Pb/Pr input	
RGB	RGB input	
DIG	Digital input	
***	Others	

*CBR includes the SD signal and PBR includes the HD signal.

❸ : Input function

Elite models: 1-8 (corresponding to Inputs 1-8)
Regular models: 1-6 (corresponding to Inputs 1-6)

❾ : Screen size

OSD	Indication on the GUI	VIDEO	PC
0	DOT BY DOT	● *	–
1	4:3	●	●
2	FULL (FULL1)	●	●
3	ZOOM	●	–
4	CINEMA	●	–
5	WIDE	●	–
6	FULL 14:9	●	–
7	CINEMA 14:9	●	–
8	FULL2	●	–
9	WIDE1	●	–
A	WIDE2	●	–
B	AUTO	●	–

●: supported, –: unsupported

❺ to ❽ : SIG mode:

The resolutions (H mode/V mode) of the input signals are indicated.

The commands that are sent from the main microcomputer to ARIA are indicated.
For details, refer to the input signal mode table.

■ Input signal mode table for video signals (resolutions and HV frequencies)

Input Signal Mode	Signal Type		fH	fV
❺❻ - ❼❽	Dot x Line		(kHz)	(Hz)
10-50	576i		15.6	50.0
10-60	480i		15.8	60.0
20-50	576p		31.3	50.0
20-60	480p	720 dot	31.5	60.0
21-50	576p	1440 dot	31.3	50.0
21-60	480p	1440 dot	31.5	60.0
30-48	1080i		27.0	48.0
30-50	1080i		28.1	50.0
30-60	1080i		33.8	60.0
40-48	720p	@48	36.0	48.0
40-50	720p		37.5	50.0
40-60	720p		45.0	60.0
50-24	1080P	@24	27.0	24.0
50-25	1080P	@25	28.1	25.0
50-30	1080P	@30	33.8	30.0
50-48	1080P	@48	54.0	48.0
50-50	1080P	@50	56.3	50.0
50-60	1080P	@60	67.5	60.0

fV: Vertical Frequency, fH: Horizontal Frequency

■ Input signal mode table for PC signals (resolutions and V frequencies)

Input Signal Mode	Signal Type		fH	fV
❺❻ - ❼❽	Dot x Line		(kHz)	(Hz)
C1-70	720 x 400		31.5	70.1
C1-85	720 x 400		37.9	85.0
C2-50	640 x 480		24.7	49.7
C2-60	640 x 480		31.5	59.9
C2-67	640 x 480		35.0	66.7
C2-72	640 x 480		37.9	72.8
C2-75	640 x 480		37.5	75.0
C2-85	640 x 480		43.3	85.0
C3-50	848 x 480		24.6	49.5
C3-60	848 x 480		31.0	60.0
C4-56	800 x 600		35.2	56.3
C4-60	800 x 600		37.9	60.3
C4-72	800 x 600		48.1	72.2
C4-75	800 x 600		46.9	75.0
C4-85	800 x 600		53.7	85.1
C5-75	832 x 624		49.7	74.6
C6-48	1280 x 720	(CVT)	35.5	47.8
C6-60	1280 x 720		44.8	60.0
C6-72	1280 x 720		18.4	71.9
C7-48	1024 x 768		38.7	48.0
C7-50	1024 x 768		40.4	50.1
C7-60	1024 x 768		48.4	60.0
C7-70	1024 x 768		56.5	70.1
C7-72	1024 x 768		58.0	71.9
C7-74	1024 x 768		60.2	74.9
C7-75	1024 x 768		60.0	75.0
C7-85	1024 x 768		68.7	85.0
C8-48	1280 x 768		38.5	48.0
C8-50	1280 x 768		40.0	49.9
C8-56	1280 x 768		45.1	56.3
C8-60	1280 x 768	(CVT)	47.8	59.9
C8-70	1280 x 768	(CVT)	56.0	69.8
C8-72	1280 x 768		57.8	72.1
C9-60	1360 x 768		47.7	60.0
CB-60	1366 x 768		65.1	59.9

Input Signal Mode	Signal Type		fH	fV
❺❻ - ❼❽	Dot x Line		(kHz)	(Hz)
D6-60	1280 x 1024		64.0	60.0
D6-75	1280 x 1024		80.0	75.0
D6-85	1280 x 1024		91.1	85.0
D7-60	1280 x 800		49.7	60.0
D8-60	1152 x 864		53.7	60.0
D8-75	1152 x 864		67.5	75.0
D9-75	1152 x 870		68.7	75.1
DA-60	1440 x 900		56.0	60.0
DB-60	1280 x 960		60.0	60.0
DB-85	1280 x 960		85.9	85.0
DC-60	1400 x 1050	(CVT)	65.3	60.0
DC-75	1400 x 1050		82.3	74.9
DC-85	1400 x 1050		93.9	85.0
DD-60	1680 x 1050		65.3	60.0
DE-60	1600 x 1200		75.0	60.0
DE-65	1600 x 1200		81.3	65.0
DE-70	1600 x 1200		87.5	70.0
DE-75	1600 x 1200		93.8	75.0
DE-85	1600 x 1200		106.3	85.0
DF-60	1920 x 1200	RB	74.0	60.0
E0-60	1920 x 1200		74.6	60.0
E1-60	720 x 480		31.5	60.0
E1-72	720 x 480		27.2	71.9
E2-48	1920 x 1080	(CVT)	53.3	47.9
E2-60	1920 x 1080		67.5	60.0

fV: Vertical Frequency, fH: Horizontal Frequency

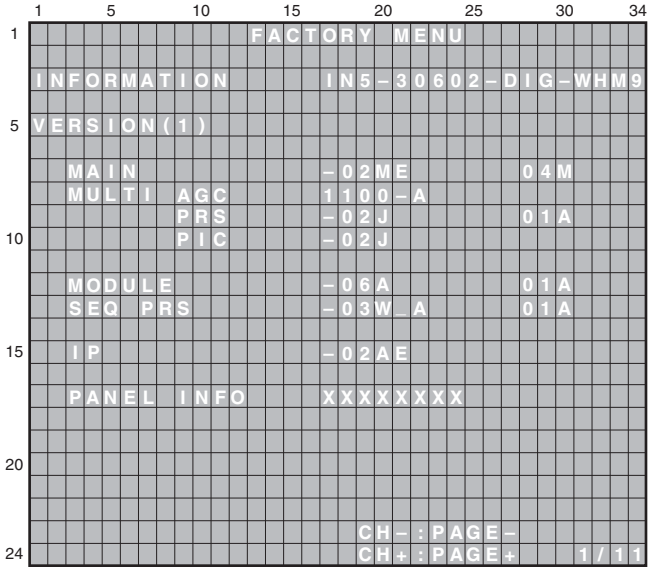
6.2 DETAILS OF FACTORY MENU

[1] FACTORY MENU

■ Operation items

No.	Display item	Description	RS-232C Command
[1-1]	VERSION (1)*	The part (common to models for all destinations) of the version code for each flash-memory device is indicated.	QS1, QSM
[1-2]	VERSION (2)	The part (specific to each model) of the version code for a flash-memory device is indicated.	QSE
[1-3]	OPTION	The settings for factory preset, the ISF function, and side mask are performed.	FST
[1-4]	MONITOR INFORMATION	The model name, serial No., current power-on duration, temperature, fan rotation status, and value at the optical sensor are indicated.	QST, QAP
[1-5]	MAIN NG	A shutdown generated at the MTB and the time of generation are indicated.	QNG
[1-6]	HDMI SIGNAL INFO 1	The value at the status register of the HDMI receiver is indicated in hexadecimal notation.	–
[1-7]	HDMI SIGNAL INFO 2		
[1-8]	VDEC SIGNAL INFO	The data for the signal input to the VDEC are indicated.	–
[1-9]	SYNC DET1	Items for use by engineers	–
[1-10]	SYNC DET2		
[1-11]	PANEL FACTORY	By pressing the ENTER/SET key, PANEL FACTORY mode is established.	–

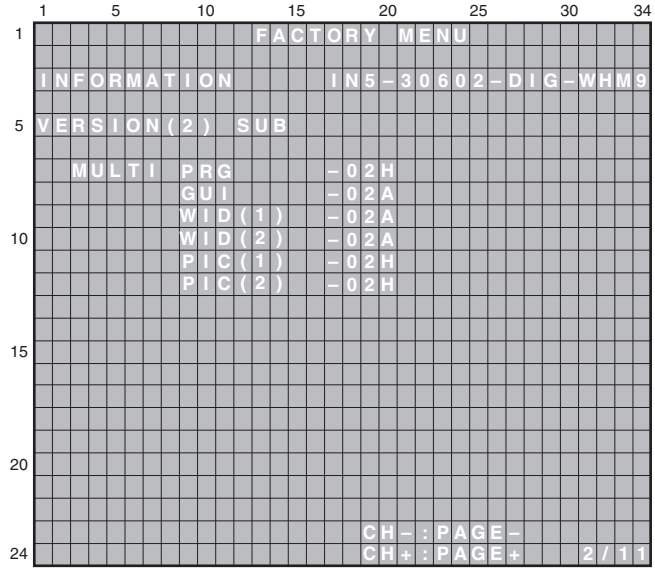
[1-1] VERSION (1)



Microcomputer	Display Item	Display Example (for the program execution section)	Display Example (for the boot section)
Main microcomputer	MAIN	-07ME	01A
AGC No. of the Multi processor	MULTI AGC	1078	-
Program of the Multi processor	MULTI PRS	-02J	01A
Picture quality data of the Multi processor	MULTI PIC	-02J	-
Module microcomputer	MODULE	-06A	01A
Program of the Sequence processor	SEQ PRS	-03W	01A
Panel information	PANEL INFO	ABCDEFGH	-
IP microcomputer	IP	-02ME	-

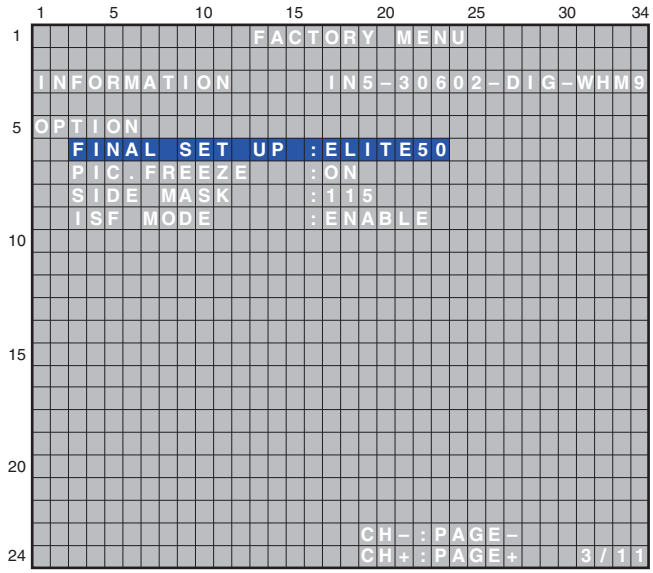
PANEL INFO: The generation, size (in inches,) and type of the panel used are indicated.
See “10: Panel information” in “5.9 [1] QS1 Command (Panel Status).”

[1-2] VERSION (2)



Display Item	Meaning
MULTI PRG	Program (PRG) version data of the Multi processor
MULTI GUI	Font data version (GUI) of the Multi processor
MULTI WID(1)	Zooming data (1) version of the Multi processor
MULTI WID(2)	Zooming data (2) version of the Multi processor
MULTI PIC(1)	Picture quality data (1) version of the Multi processor
MULTI PIC(2)	Picture quality data (2) version of the Multi processor

[1-3] OPTION

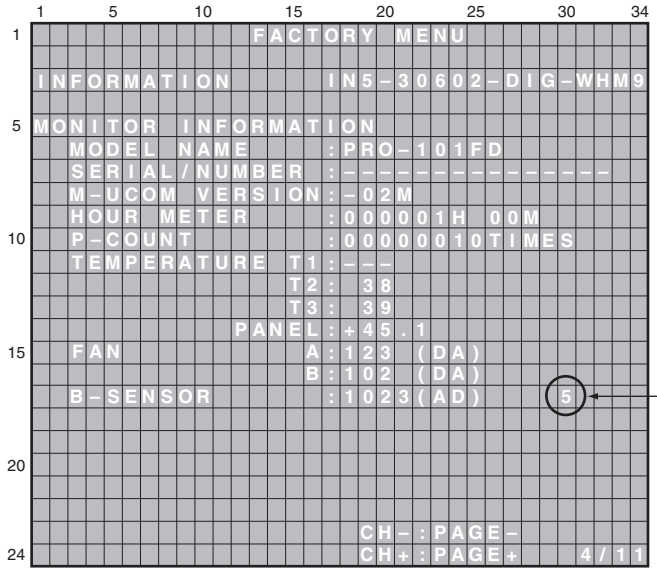


Menu	Function	Selectable items	RS-232C command
SHIP	For factory presetting	For Elite models: ELITE50/ELITE60 For Pioneer models: PIO50/PIO60/PIO50_A/PIO60_A /PIO50_J/PIO60_J	FST
PIC. FREEZE	For enabling/disabling the PIP freeze function	DISABLE, ENABLE	
SIDE MASK	For level adjustment of side mask	0 (black) to 255 (white)	
ISF MODE	For enabling/disabling ISF mode	DISABLE, ENABLE	

How to factory-preset

① Select the destination of the model in the SHIP item, using the Left or Right key.
② Press the MUTING, UP, DOWN, then MUTING keys, in that order. The “SET” indication is displayed for about 5 seconds in red.
③ When the “SET” indication disappears, factory presetting is completed.

[1-4] MONITOR INFORMATION



Exclusively used for technical analysis

• MODEL NAME (RS-232C command: QAP)

	Display Name	Model Name
ELITE (Models for North America)	ELITE50	: PRO-101FD
	ELITE60	: PRO-141FD
PIONEER (Pioneer models)	PIO50	: KRP-500M
	PIO60	: KRP-600M
	PIO50_A	: KRP-500M
	PIO60_A	: KRP-600M
	PIO50_J	: KRP-500M
	PIO60_J	: KRP-600M

• SERIAL/NUMBER (RS-232C command: QST)
The serial No. is displayed.

• HOUR METER (RS-232C command: QST)
The accumulated power-on duration is displayed.
To clear the data, move the cursor on the hour meter data, then press the MUTE, ⬆, ⬇, then Green key, in that order.

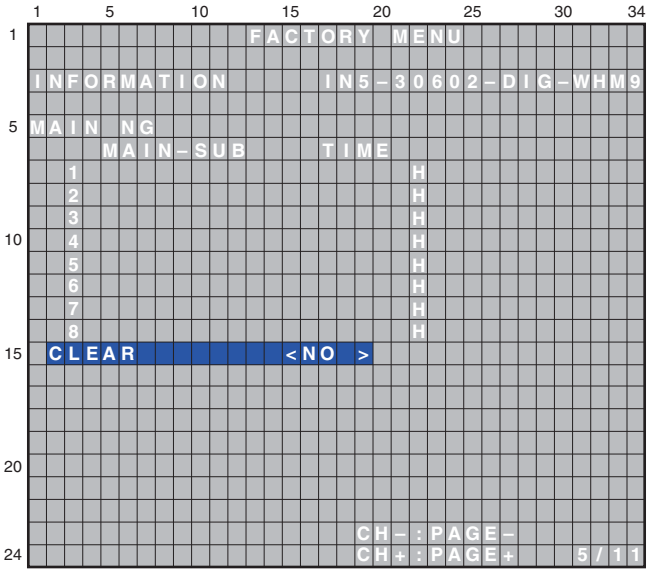
• P-COUNT (RS-232C command: QST)
The number of times of power-on is displayed.
To clear the data, move the cursor on the hour meter data, then press the MUTE, ⬆, ⬇, then Green key, in that order.

• TEMPERATURE (RS-232C command: QST)
T2: The temperature at the upper side of the X drive is indicated in Centigrade.
T3: The ambient temperature is indicated in Centigrade.
PANEL: The temperature at the panel is indicated in Centigrade.

• FAN (RS-232C command: QST)
The D/A value for fan control, which is sent by the main microcomputer
(The smaller the value is, the faster the rotation speed of the fan becomes.)

• B-SENSOR (RS-232C command: QST)
The A/D value of the optical sensor, which is received by the main microcomputer.
(0 V: Dark, 1025 [3.3 V]: Bright)

[1-5] MAIN NG

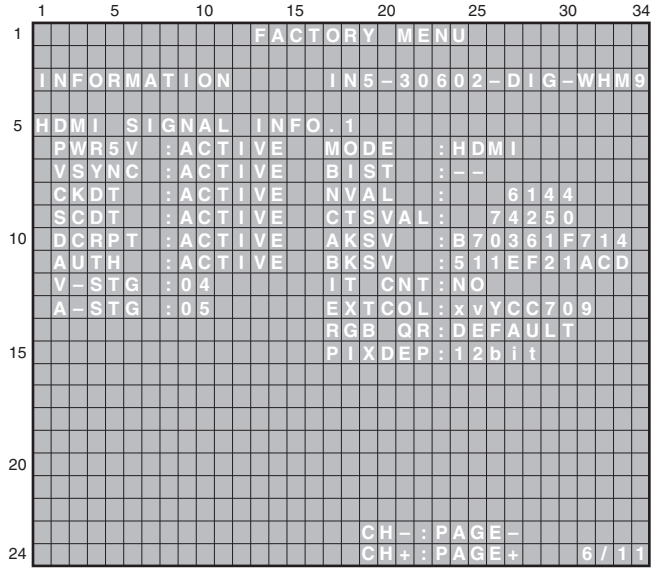


MTB side's Shutdown NG information

OSD		Main item		Sub-item		Remarks
Main	Sub					
AUDIO	–	5	Speaker short-circuiting	1	——	Short-circuiting of the speaker terminals or abnormality in the audio amplifier
MODULE	–	6	Module microcomputer	1	——	Serial communication error with the module
	MULTI	7	Main microcomputer 3-wire serial communication	2	ARIA communication error	Serial communication error with the ARIA
	IP			3	IP microcomputer communication error	Communication error with the IP
MA-IIC	AU	8	Main microcomputer IIC communication	3	Audio IC	Communication error with the audio IC
	RGB-SW			4	RGB Switch	Communication error with the RGB switch
	VDEC			5	Main VDEC	Communication error with the VDEC
	ADC			7	AD / PLL	Communication error with the AD
	HDMI			8	HDMI	Communication error with the HDMI receiver
	TEMP			K	Temperature sensor	Communication error with the temperature sensor
	IO			L	Extension I/O	Communication error with the extension I/O
FAN	FAN 1	A	FAN	1	FAN 1	Fan stop
	FAN 2			2	FAN 2	Fan stop
TEMP2	–	B	High temperature of the unit	1	——	High temperature of the unit
RST-MA	RELAY	D	MTB power supply	2	RST 4	Relay power decrease
MA-EEP	–	F	Main EEPROM	0	E2PROM	Abnormality in the EEPROM
OTHER		9	Other abnormality	0	——	

• For details on shutdown information “1-4,” see “[2-4] SHUTDOWN.”

[1-6] HDMI SIGNAL INFO.1

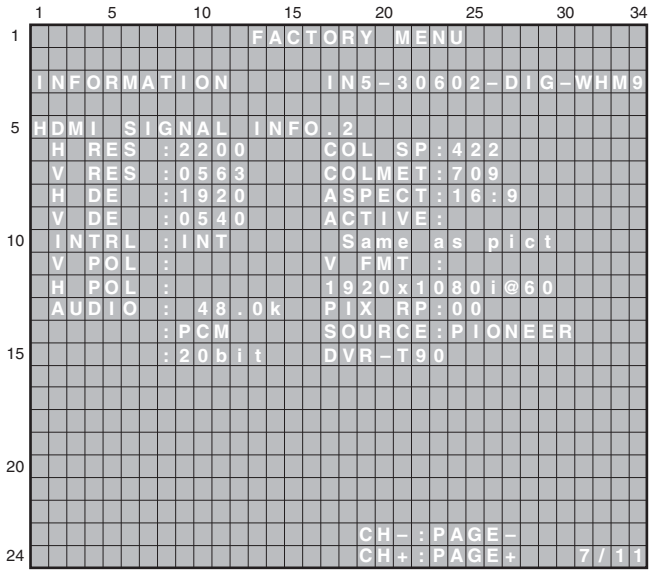


Displays the input signal information of HDMI terminal

Display Item	Meaning
PWR5V	+5 V power detection (18 pin of HDMI terminal)
VSYNC	VSYNC detection
CKDT	Clock detection
SCDT	SYNC detection
DCRPT	HDCP decryption status
AUTHEN	HDCP authentication status
MODE	HDMI mode status
BIST	----
NVAL	N value
CTSVAL	CTS value
AKSV	Shadow AKSV value
BKSV	Shadow BKSV value
IT CNT	IT content (AVI info)
EXTCOL	Extension calorimetry (AVI info)
RGV QR	RGB range (AVI info)
PIXDEP	Number of pixel/bit

Note: V-STG and A-STG are for use by engineers. They are not to be used for servicing.

[1-7] HDMI SIGNAL INFO.2



Displays input signal status of HDMI terminal

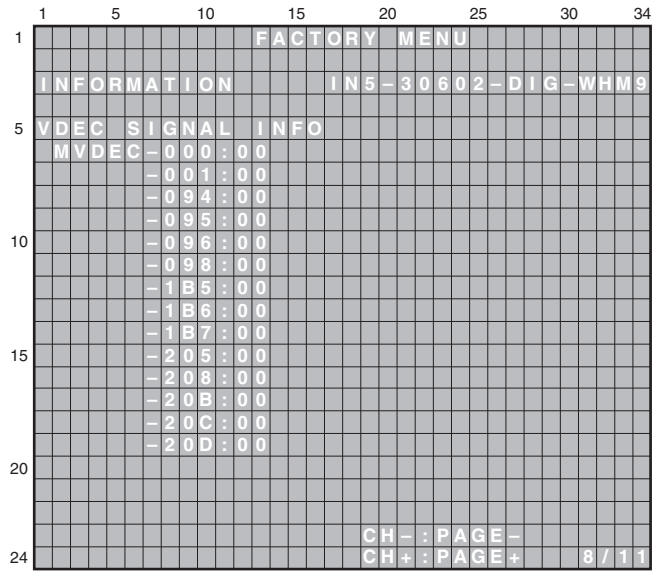
Display Item	Meaning
H RES	Number of horizontal pixels
V RES	Number of vertical lines
H DE	Number of effectively horizontal pixels
V DE	Number of effectively vertical lines
INTRL	Interlace (=INT) or progressive (=PRG)
V POL	VSYNC polarity
H POL	HSYNC polarity
AUDIO (first line)	Sampling frequency. (ex. DVD: 48kHz, CD: 44.1kHz) *1
AUDIO (second line)	Audio format PCM (PCM) or No PCM (no PCM)
AUDIO (third line)	Quantization bit
COL SP	Color space (AVI Info) 422 or 444 or RGB *2
COLMET	Calorimetry (AVI Info)
ASPECT	Aspect (AVI Info)
ACTIVE	Active format (AVI Info)
V FMT	Video format (AVI Info)
PIX RP	Pixel count
SOURCE (first line)	Vendor name of the emission device
SOURCE (second line)	Model name of the emission device

*1: Confirm if this item is displayed when the audio is not outputted.
*2: If may not match to the state of source devices when the color is abnormal.

Display of HDMI FACTORY and correspondence of resolution
Please confirm the following items when the picture doesn't come out.

Input Signal	FACTORY Display				
	H RES	V RES	H DE	V DE	V FMT
480i (525i)@60	858	262 or 263	720	240	720x480i@60
480p (525p)@60	858	525	720	480	720x480p@60
1080i (1125i)@60	2200	562 or 563	1920	540	1920x1080i@60
720p (750p)@60	1650	750	1280	720	1280x720p@60
1080p (1125p)@60	2200	1125	1920	1080	1920x1080p@60
1080p (1125p)@24	2750	1125	1920	1080	1920x1080p@24

[1-8] VDEC SIGNAL INFO.



Displays signal status that is input to VDEC.

Device	Sub Address (Main screen)	Sub Address (Sub screen)	Meaning
VDEC	000h	400h	Line system distinction result
	001h	401h	VTR distinction result
	094h	494h	Slot number
	095h	495h	Color system distinction result
	096h	496h	ACC coefficient
	098h	---	3D YC flag
	1B5h	5B5h	MV detection 1
	1B6h	5B6h	MV detection 2
	1B7h	5B7h	MV detection 3
	205h	605h	CC detection 1
	208h	608h	CC detection 2
	20Bh	60Bh	CC-CRI detection
	20Ch	60Ch	XDS content advisory 0
	20Dh	60Dh	XDS content advisory 1

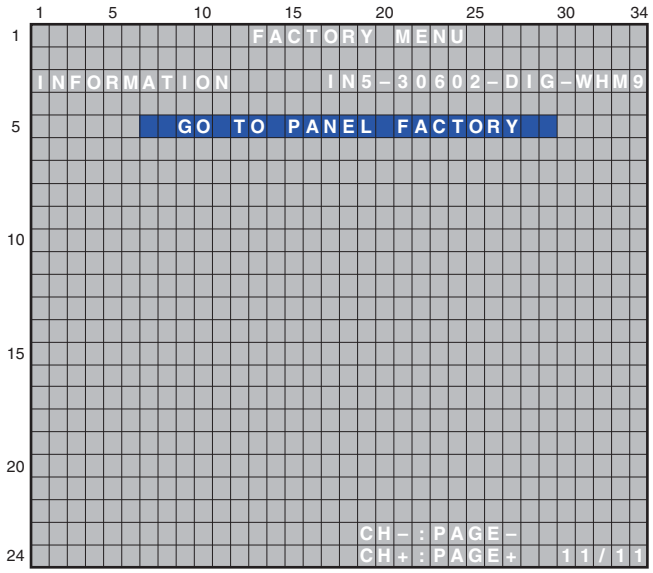
[1-9] SYNC DET 1

Exclusively used for technical analysis (details omitted).

[1-10] SYNC DET 2

Exclusively used for technical analysis (details omitted).

[1-11] PANEL FACTORY



Move to PANEL FACTORY MENU of the Module by pressing the "ENTER/SET" key.

[2] PANEL FACTORY (+)

■ Remote Control Code in Panel Factory Mode

Remote Control Keys	Basic Functions	Remarks
MUTING	Switching the main items.	Shifting to the next main item (top).
⬇ (DOWN)	Switching the subtitled items.	Shifting downward to the next subtitiled item.
⬆ (UP)	Switching the subtitled items.	Shifting upward to the next upper layer.
⬅ (LEFT)	Decreasing the adjustment value.	Decreasing the adjustment value.
➡ (RIGHT)	Increasing the adjustment value.	Increasing the adjustment value.
ENTER/SET	Switching the layers.	Shifting downward or upward to the next lower or upper layer.
INPUT	Selecting INPUT.	Shifting the INPUT to the next function.
INPUTxx	Selecting INPUT.	Switching the INPUT to xx. (xx=1 to 6 etc)
POWER	Power OFF.	Turning the power off.
FACTORY	Factory OFF (Factory mode)	In Factory mode, turning Factory mode off.
	Factory ON (Non-Factory mode).	In Non-Factory mode, turn Fuctory mode on.
VOLUME+	Volume UP.	Increasing 10 the adjustment value. (PANEL FACTORY)
VOLUME-	Volume DOWN.	Decreasing 10 the adjustment value. (PANEL FACTORY)
DRIVE OFF (Note1)	Drive Mode OFF.	Turning Drive mode off.

(Note 1) When ten seconds have passed since the [DRIVE OFF] key was pressed at the standby, it becomes invalid. Please press [POWER] key from the [DRIVE OFF] key pressing within ten seconds when you do power supply ON while driven OFF.

■ Operation Items

This is the menu screen for the adjustment of the panel. Data acquisition and value adjustment can be performed for the following items:

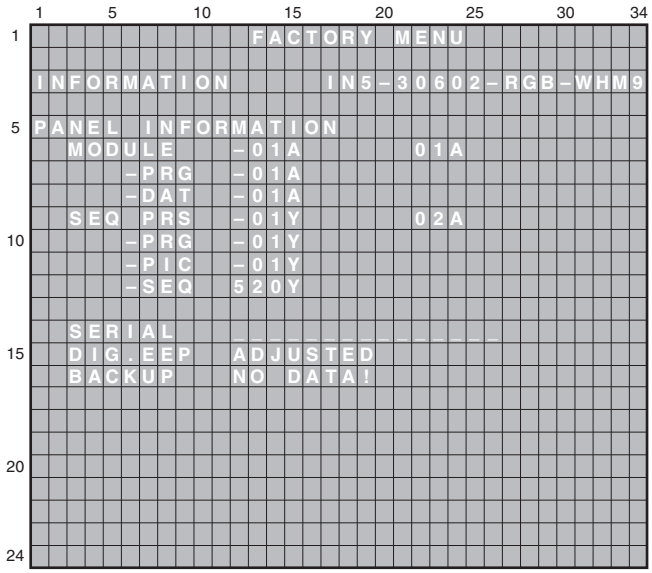
No.	Indication	Description of functions
[2-1]	PANEL INFORMATION	Data, such as the version of the microcomputer of the panel, product serial number, and statuses of EEPROM for adjustment values for the main unit and for backup, are displayed.
[2-2]	PANEL WORKS	Operation data, such as accumulated pulse-meter count, accumulated hour-meter count, accumulated power-on count, and the temperature detected by the sensor, are displayed.
[2-3]	POWER DOWN	The power-down history is displayed.
[2-4]	SHUT DOWN	The shutdown history of the panel section is displayed.
[2-5]	PANEL-1 ADJ (+)	Settings of the driving voltage and AM radio prevention can be performed.
[2-6]	PANEL-2 ADJ (+)	White balance and ABL (power consumption) for the panel can be set.
[2-7]	PANEL FUNCTION (+)	Setting of the panel-degradation correction-level and various functions are displayed.
[2-8]	ETC. (+)	Copying of backup data, clearing of various settings, and changing of settings for functions for which setting data are not stored upon last update are performed.
[2-9]	RASTER MASK SETUP (+)	The mask indication (RASTER) can be set and indicated.
[2-10]	PATTERN MASK SETUP (+)	The mask indication (PATTERN) can be set and indicated.
[2-11]	COMBI MASK SETUP (+)	The mask indication (COMBI) can be set and indicated.

■ Details of indications in each layer

Note: The background color for OSD characters cannot be specified with this unit.

[2-1] PANEL INFORMATION

- Data, such as the version of the microcomputer of the panel, product serial number, and statuses of digital EEPROM for storing the adjustment values and for backup EEPROM, are displayed. No other layers are nested below this layer, and there are no adjustment items.



■ Key operation

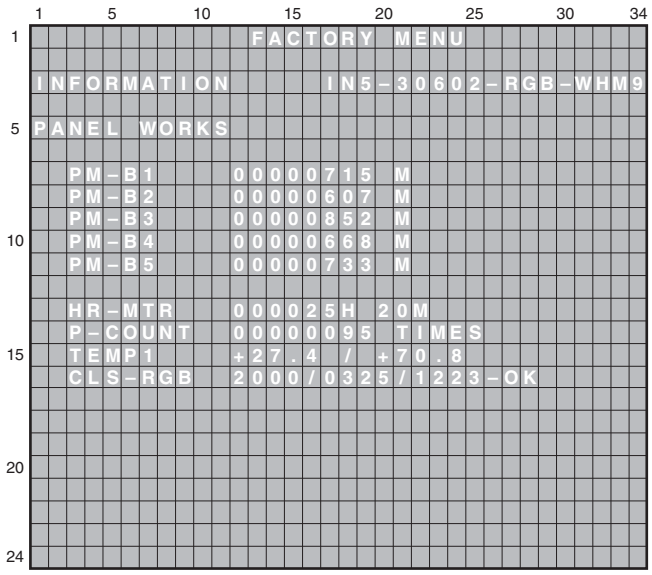
<DOWN> : Shifting to PANEL WORKS
<UP> : Shifting to COMBI MASK SETUP (+)
<L/R> : Updating displayed information

■ Contents of the Display item

MODULE : The version of data written in the Module microcomputer is indicated.
-PRG : The program version of the Module microcomputer is indicated.
-DAT : The data version of the Module microcomputer is indicated.
SEQ PRS : The version of data written in the Sequence LSI is indicated.
-PRG : The program version of the Sequence LSI is indicated.
-PIC : The Picture-data version of the Sequence LSI is indicated.
-SEQ : The sequence-data version of the Sequence LSI is indicated.
SERIAL : The serial number of the module is indicated.
DIG.EEP : The adjusted status of the EEPROM that is mounted on the DIGITAL Assy is indicated.
BACKUP : The adjusted status of the EEPROM for backup that is mounted on the SENSOR Assy is indicated.

[2-2] PANEL WORKS

• Data on operations, such as the accumulated pulse-meter counts, hour-meter count, power-on count, and temperature detected by the sensor, are displayed. No other layers are nested below this layer, and there are no adjustment items.



■ Key operation

<DOWN> : Shifting to POWER DOWN
<UP> : Shifting to PANEL INFORMATION
<L/R> : Updating displayed information

■ Contents of the Display item

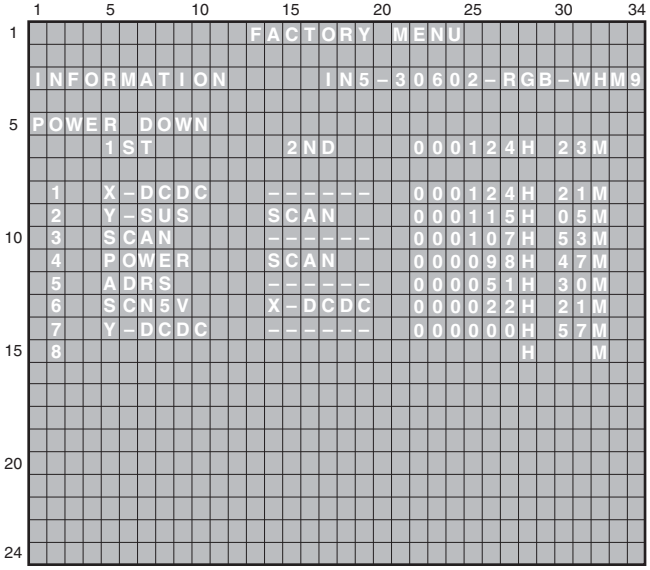
- PM-B1 to B5: The accumulated pulse-meter counts for the 5 blocks on the screen are indicated. (the lowest-order digit represents millions of pulses.)
- HR-MTR: The hour-meter value (accumulated power-on hours) is indicated.
- P-COUNT: The accumulated power-on count is indicated.
- TEMP1: The current panel temperature and the historical maximum temperature recorded in memory are indicated. The range of temperature indication is from -50.0 to +99.9. (The temperature unit is " °C (Centigrade) ".)
- CLS-RGB: Data obtained from the color sensor are displayed in the order R, G, and B, with the status indication at the end.

CLS Status	OSD Indication
Function OFF	-OFF
Color sensor module non connection	-NC
Data abnormality	-INV
Data normal	-OK

Note:
Turning ON the functions of the color sensor can be performed in the ETC(+) layer.

[2-3] POWER DOWN

- The power-down history is displayed. No other layers are nested below this layer.



■ Key operation

<DOWN> : Shifting to SHUT DOWN
<UP> : Shifting to PANEL WORKS
<L/R> : Updating displayed information

■ Contents of the Display item

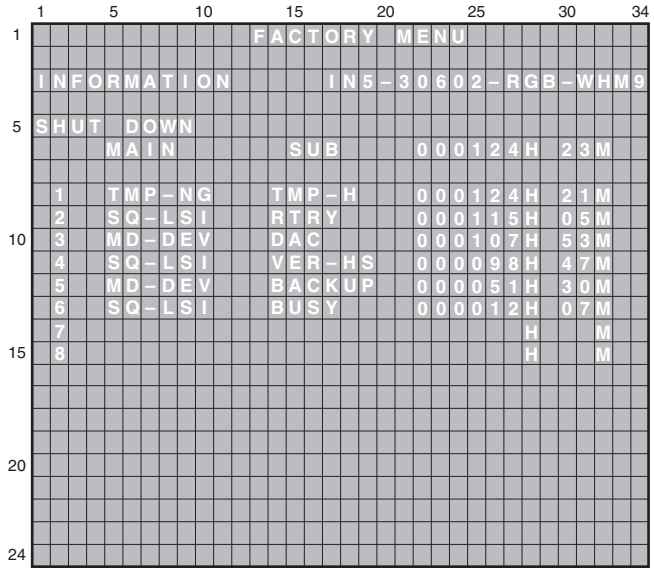
- The last most 8 power-down histories are displayed with the hour-meter values that indicate the hours when power-downs occurred.
- When power-down is confirmed, the factor is displayed as "1st", "2nd", according to the accuracy order.
- The power-down history is not recorded when the power-down occurred at the same place and same time.

<Causes of power-down and corresponding OSD indications>

Cause of power-down	OSD Indication	Cause of power-down	OSD Indication
POWER SUPPLY Unit	P-PWR	ADDRESS Assy	ADRS
SCAN Assy	SCAN	DC/DC converter for X drive	X-DCDC
5 V power for SCAN	SCN5V	X-SUS	X-SUS
DC/DC converter for Y drive	Y-DCDC	DIG-DCDC	D-DCDC
Y-SUS	Y-SUS	Unknown	UNKNOW

[2-4] SHUT DOWN

- The shutdown history of panel section is displayed. No other layers are nested below this layer, and there are no adjustment items.



■ Key operation

<DOWN> : Shifting to PANEL-1 ADJ (+)
<UP> : Shifting to POWER DOWN
<L/R> : Updating displayed information

■ Contents of the Display item

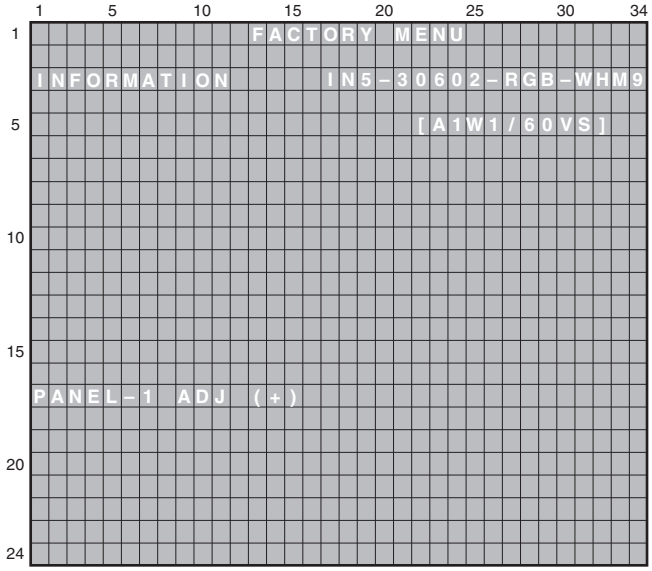
- The shutdown history is displayed. The last most 8 shutdown histories are displayed with the hour-meter values that indicate the hours when shutdowns occurred.
- When there is detail information when shutdown occurred, the possible defective part is displayed as Sub information.
- The shutdown history is not recorded when the shutdown occurred at the same place and same time.

<Cause of shutdown and corresponding OSD Indication >

Cause of shutdown (MAIN)		Cause of shutdown (SUB)	
Main cause	**OSD Indication**	**Sub cause**	**OSD Indication**
SQ_LSI	SQ_LSI	Communication Error	RTRY
		Drive Stop	SQNO
		Busy	BUSY
		Version mismatching (H/S)	VER-HS
		Version mismatching (H/M)	VER-HM
		Version mismatching (H/I)	VER-HI
MDU-DEVICE	MD-DEV	Digital EEPROM	EEPROM
		Backup EEPROM	BACKUP
		DAC IC	DAC
Abnormally in RST2 power supply	RST2	–	–
Abnormally in panel temperature	TMP-NG	High temperature of the panel	TMP-H
		Low temperature of the panel	TMP-L

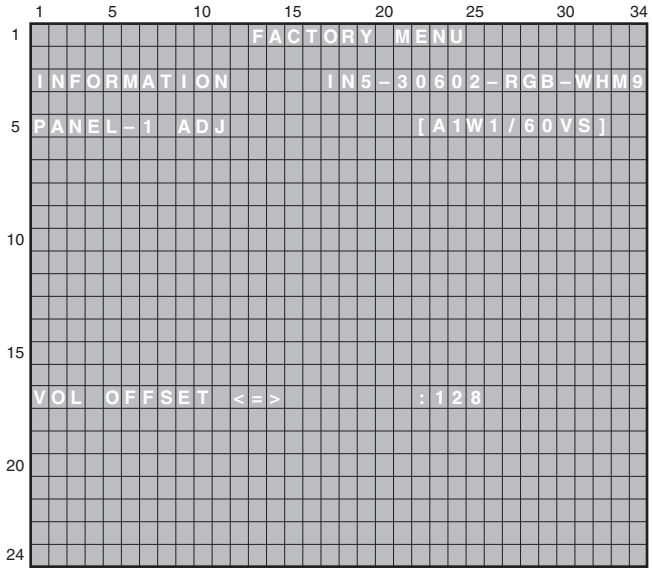
[2-5] PANEL-1 ADJ (+)

This is a page for settings for the driving voltage and AM radio countermeasures. Pressing the ENTER/SET key shifts the screen to the next nested layer below for item selection.
On third line of the screen, the white balance, ABL table, and drive sequence in the current status are displayed.
(Items that have lower layers are the same.)



■ Key operation

<DOWN> : Shifting to PANEL-2 ADJ (+)
<UP> : Shifting to POWER DOWN
<SET> : Shifting to the next nested layer



■ Key operation

<DOWN> : Shifting to the next item
<UP> : Shifting to the previous item
<RIGHT> : Adding by one to the adjustment/ setting value
<LEFT> : Subtracting by one from the adjustment/setting value
<VOL+> : Adding by 10 to the adjustment/ setting value
<VOL-> : Subtracting by 10 from the adjustment/setting value
<SET> : Determining the adjustment/setting value and shifting to the upper layer

When entered to this layer, panel white balance and the gamma setting become the default temporarily for setting that is necessary for voltage adjustment. Turn off the noise option function.

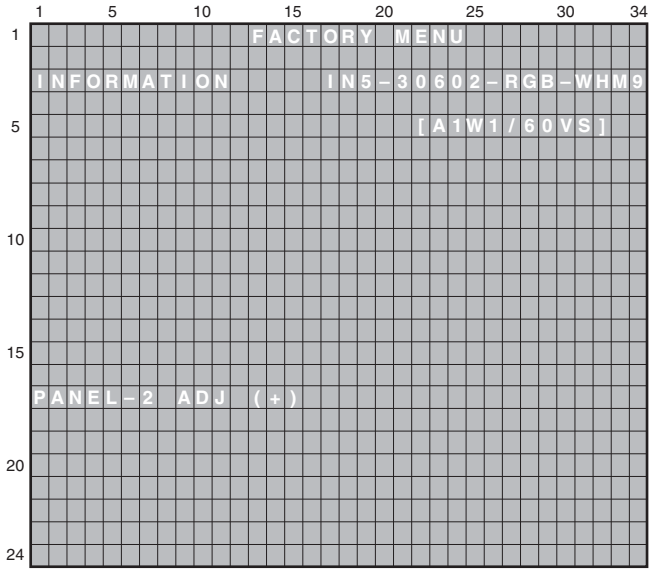
<Next nested layer of PANEL-1 ADJ (+)>

No.	Item	OSD Indication	Variable Range	Setting Value	RS-232C Command	Remarks
1	Vsus voltage	VOL SUS <=>	000 to 255	Factory adjustment value	VSU	
2	Vysnofs voltage	VOL OFFSET <=>			VOF	
3	Vyprst voltage	VOL RST P <=>			VRP	
4	Vxpofs1 voltage	VOL XPOFS1 <=>			VX1	
5	Vxpofs2 voltage	VOL XPOFS2 <=>			VX2	
6	Vyknofs1,2 voltage	VOL YKNOFS1 D <=>			V1F	
7	Vyknofs3 voltage	VOL YKNOFS3 D <=>			V3F	
8	Vyknofs4 voltage	VOL YKNOFS4 D<=>			V4F	
9	∆ Vyknofs1,2/3/4	VOL YKNOFSA D<=>			VYF	
10	First reset (wedge width)	RESET1ST_KSB <=>	112 to 144	128	R1K	Factory use item
11	Second reset (wedge width)	RESET2ND_KSB <=>			R2K	
12	1SF - Y sus tail (wedge width)	YSTL_1SF_KSB <=>			Y1K	
13	1SF - Y sus tail (resonance down width)	YSTL_1SF_HZ <=>			Y1Z	
14	3SF and later - first X sus (resonance up width)	XSUS_1ST_B <=>			X1B	
15	2SF - second Y sus (resonance up width)	YSUS_2ND_B <=>			Y2B	
16	2SF - third X sus (resonance up width)	XSUS_3RD_B <=>			X3B	
17	2SF - repeat Y sus (resonance up width)	YSUS_B <=>			YSB	
18	2SF - repeat X sus (resonance up width)	XSUS_B <=>			XSB	
19	3SF and later - Y sus tail (wedge width)	YSTL_KSB <=>			YTK	
20	3SF and later - Y sus tail (resonance down width)	YSTL_HZ <=>			YTZ	
21	2SF - Y sus tail (wedge width)	YSTL_2SF_KSB <=>			Y2K	
22	2SF - Y sus tail (resonance down width)	YSTL_2SF_HZ <=>			Y2Z	
23	3SF and later (2 pulses of SSF) - Y sus tail (wedge width)	YSTL_FMR_KSB <=>			YNK	
24	Timing between Scan and Address	SCAN ADRS ADJ <=>			SAT	
25	SUS frequency (AM radio anti-jamming)	SUS FREQ <=>	MODE1 to 8	MODE1	SFR	Note

Note: It is necessary to turn OFF and ON the power for reflecting the setting change.

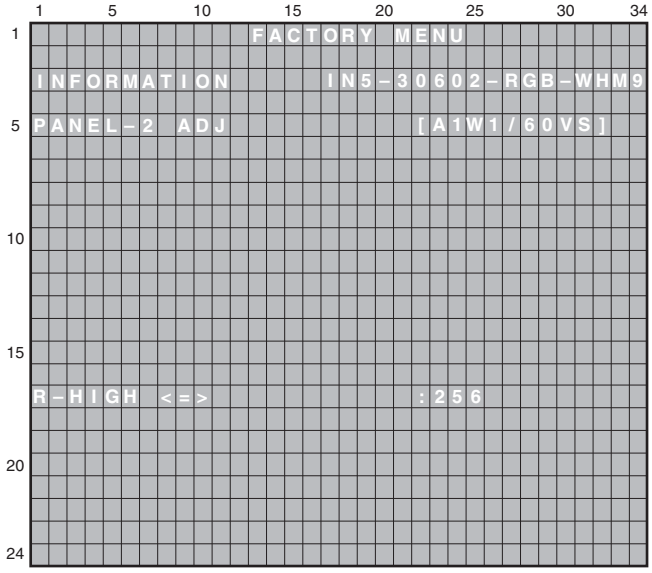
[2-6] PANEL-2 ADJ (+)

- White balance of the panel can be adjusted. Pressing the ENTER/SET key shifts the screen to the next nested layer below for item selection.



■ Key operation

<DOWN> : Shifting to PANEL FUNCTION (+)
<UP> : Shifting to PANEL-1 ADJ (+)
<SET> : Shifting to the next nested layer



■ Key operation

<DOWN> : Shifting to the next item
<UP> : Shifting to the previous item
<RIGHT> : Adding by one to the adjustment/ setting value
<LEFT> : Subtracting by one from the adjustment/setting value
<VOL+> : Adding by 10 to the adjustment/ setting value
<VOL-> : Subtracting by 10 from the adjustment/setting value
<SET> : Determining the adjustment/setting value and shifting to the upper layer

<Next nested layer of PANEL-2 ADJ (+)>

No.	Item	OSD Indication	Variable Range	Setting Value	RS-232C COMMAND	Remarks
1	Panel WB R highlight	R-HIGH <=>	000 to 999	Factory adjustment value	PRH	
2	Panel WB G highlight	G-HIGH <=>			PGH	
3	Panel WB B highlight	B-HIGH <=>			PBH	
4	Panel WB R lowlight	R-LOW <=>	000 to 999		PRL	
5	Panel WB G lowlight	G-LOW <=>			PGL	
6	Panel WB B lowlight	B-LOW <=>			PBL	
7	ABL	ABL <=>	000 to 255		ABL	

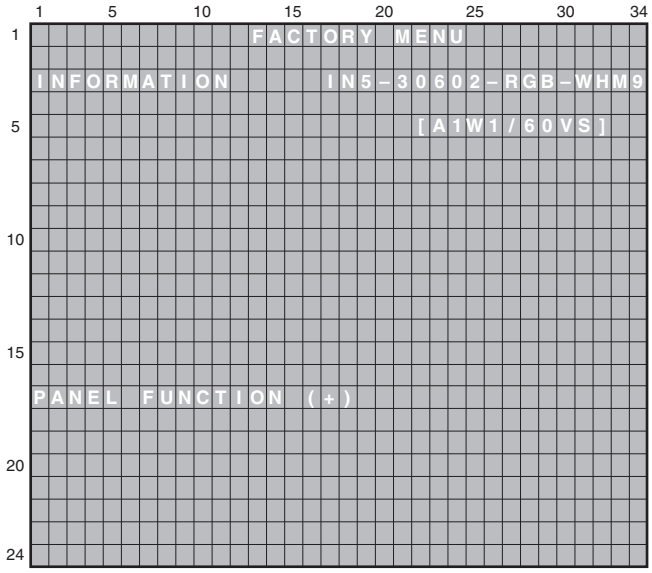
The ABL/WB adjustment values are grouped into three tables with ABL and four tables with WB, depending on the drive sequences. The adjustment value for the actually driven table is displayed. The number of the adjustment table and the drive sequence currently selected are displayed on the right side of the third line as the On-Screen display.

<ABL/WB adjustment table and Drive sequence>

ABL Table	WB Table	OSD Indication	Drive Sequence	OSD Indication	Remarks
TABLE 1	TABLE 1	A1W1	VIDEO-60Hz	60VS	
			PC-60Hz	60PS	
TABLE 2	TABLE 2	A2W2	VIDEO-48Hz	48VS	
			VIDEO-50Hz	50VS	
TABLE 3	TABLE 3	A3W3	VIDEO-72Hz	72VS	
			VIDEO-75Hz-1	75V1	
	TABLE 4	A3W4	VIDEO-75Hz-2	75V2	Correspond to MASK indication only

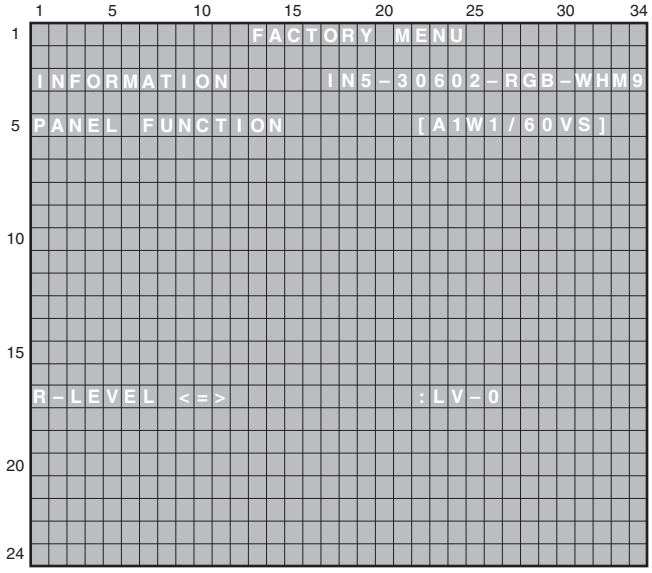
[2-7] PANEL FUNCTION (+)

- A level setting for panel degradation correction can be made. Pressing the ENTER/SET key shifts the screen to the next nested layer below for item selection.



■ Key operation

<DOWN> : Shifting to ETC.(+)
<UP> : Shifting to PANEL-2 ADJ (+)
<SET> : Shifting to the next nested layer



■ Key operation

<DOWN> : Shifting to the next item
<UP> : Shifting to the previous item
<RIGHT> : Adding by one to the adjustment/ setting value
<LEFT> : Subtracting by one from the adjustment/setting value
<SET> : Determining the adjustment/setting value and shifting to the upper layer

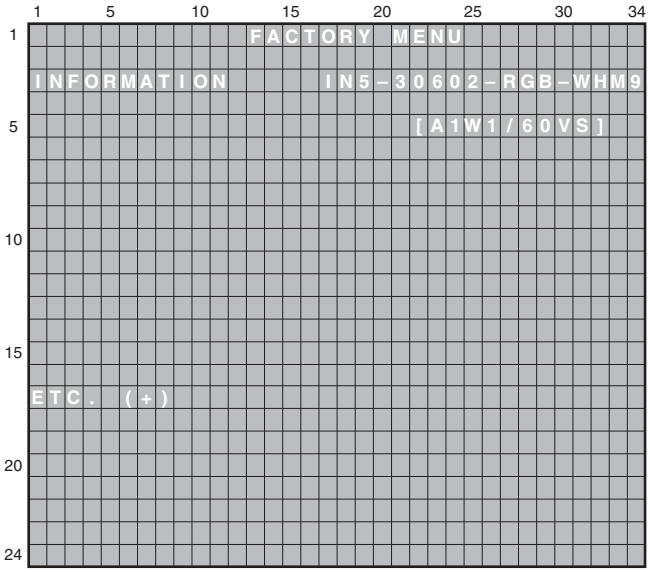
<Next nested layer of PANEL FUNCTION (+)>

No.	Item	OSD Indication	Variable Range	Setting Value	RS-232C COMMAND	Remarks
1	R deterioration correction LEVEL	R-LEVEL <=>	Lv-10 to 7	Lv-3	RRL	Factory use item (Note)
2	G deterioration correction LEVEL	G-LEVEL <=>		Lv-2	RGL	
3	B deterioration correction LEVEL	B-LEVEL <=>		Lv-0	RBL	
4	L1 address	ADDRESS L1 <=>	PH0 to 9	PH2	AP0	
5	L2 address	ADDRESS L2 <=>		PH2	AP0	
6	L3 address	ADDRESS L3 <=>		PH3	AP1	
7	L4 address	ADDRESS L4 <=>		PH1	AP1	
8	U1 address	ADDRESS U1 <=>		PH2	AP2	
9	U2 address	ADDRESS U2 <=>		PH2	AP2	
10	U3 address	ADDRESS U3 <=>		PH3	AP3	
11	U4 address	ADDRESS U4 <=>		PH1	AP3	
12	Streaking correction	STK MODE <=>	OFF to MODE1 to 8	MODE1	SKM	
13	Black display mode	FULL BLACK <=>	OFF to MODE1	MODE1	FBM	
14	Panel Rx characteristic	PANEL RX <=>	000 to 999	Factory adjustment value	PRX	Factory use item
15	Panel Ry characteristic	PANEL RY <=>	000 to 999		PRY	
16	Panel Gx characteristic	PANEL GX <=>	000 to 999		PGX	
17	Panel Gy characteristic	PANEL GY <=>	000 to 999		PGY	
18	Panel Bx characteristic	PANEL BX <=>	000 to 999		PBX	
19	Panel By characteristic	PANEL BY <=>	000 to 999		PBY	
20	Color sensor R coefficient	CLS R <=>	000 to 255	128	CSR	
21	Color sensor G coefficient	CLS G <=>	000 to 255	128	CSG	
22	Color sensor B coefficient	CLS B <=>	000 to 255	128	CSB	

Note: It is necessary to turn OFF and ON the power for reflecting the setting change.

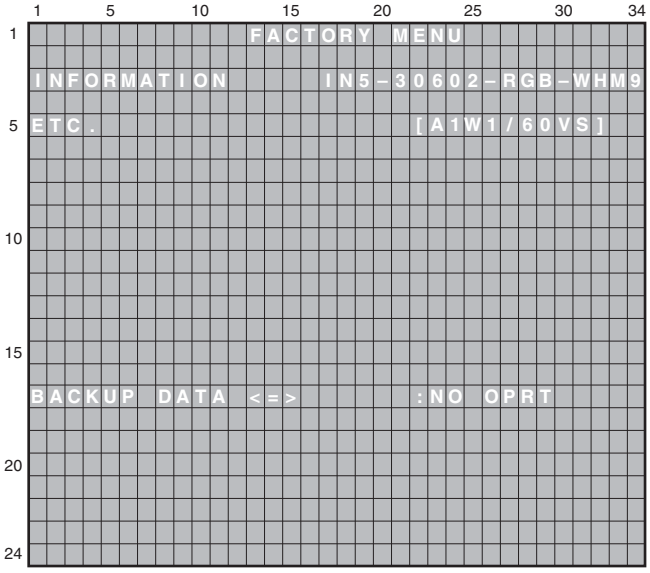
[2-8] ETC. (+)

- Clearance of various log data for the panel and changing of settings for which setting data were not stored upon last update can be performed.
  Pressing the ENTER/SET key shifts the screen to the next nested layer below for item selection.



■ Key operation

<DOWN> : Shifting to RASTER MASK SETUP (+)
<UP> : Shifting to PANEL FUNCTION (+)
<SET> : Shifting to the next nested layer



■ Key operation

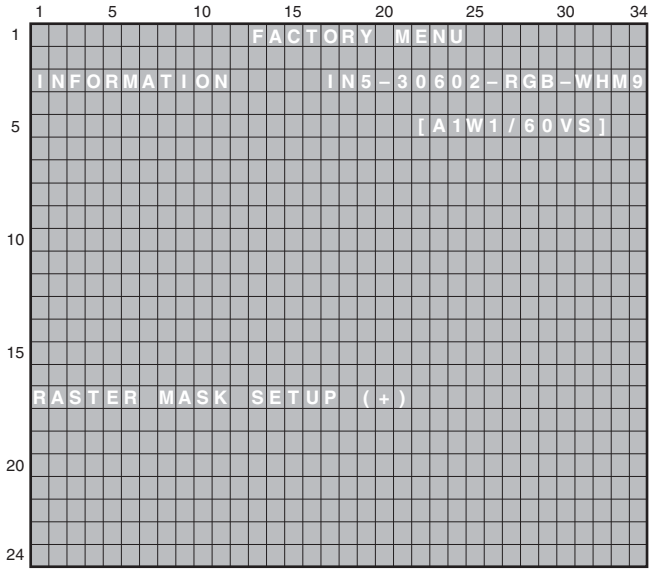
<DOWN> : Shifting to the next item
<UP> : Shifting to the previous item
<RIGHT> : Changing Processing content (+)
<LEFT> : Changing Processing content (-)
<SET> : Executing the Processing content and shifting to the upper layer

<Next nested layer of ETC. (+)>

No.	Item	OSD Indication	Processing Contents	RS-232C COMMAND	Remarks
1	Backup EEPROM data	BACKUP DATA <=>	• NO OPRT (No operation) • TRANSFER (Backup data transmission)	BCP	
2	Digital EEPROM data	DIGITAL EEPROM <=>	• NO OPRT (No operation) • REPAIR (Adjustment is complete) • DELETE (Adjustment is not complete)	FAJ/UAJ	
3	PD history	PD INFO. <=>	• NO OPRT (No operation) • CLEAR (Data clear)	CPD	
4	SD history	SD INFO. <=>		CSD	
5	HOUR METER	HR-MTR INFO. <=>		CHM	
6	Pulse meter	PM/B1-B5 <=>		CPM	
7	PON counter	P COUNT INFO. <=>		CPC	
8	Maximum temperature	MAX TEMP. <=>		CMT	
9	Mirror reversing display	MIRROR <=>	• Mirror reversing display OFF • MODE1 (Right and left reversing) • MODE2 (Top and bottom reversing) • MODE3 (Right and left, Top and bottom reversing)	MIR	The indication on the menu is also highlighted. The setting is canceled upon power-off.
10	Color sensor mode	CLS <=>	• Color sensor operation OFF • Color sensor operation ON	CSF	

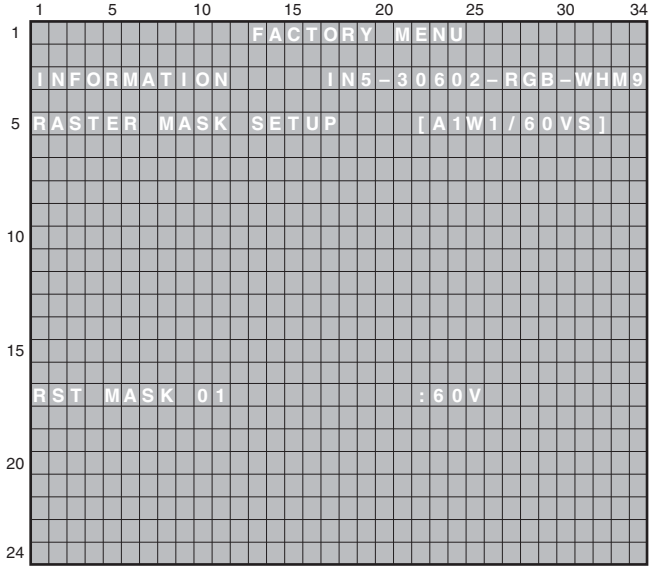
[2-9] RASTER MASK SETUP (+)

• This menu set the RASTER MASK and the drive sequence at RASTER MASK state. Pressing the ENTER/SET key shifts the screen to the next nested layer below for item selection.



■ Key operation

<DOWN> : Shifting to PATTERN MASK SETUP (+)
<UP> : Shifting to ETC. (+)
<SET> : Shifting to the next nested layer



■ Key operation

<DOWN> : Shifting to the next MASK
<UP> : Shifting to the previous MASK
<RIGHT> : Changing MASK sequence (+)
<LEFT> : Changing MASK sequence (-)
<SET> : Determining the adjustment/setting value and shifting to the upper layer

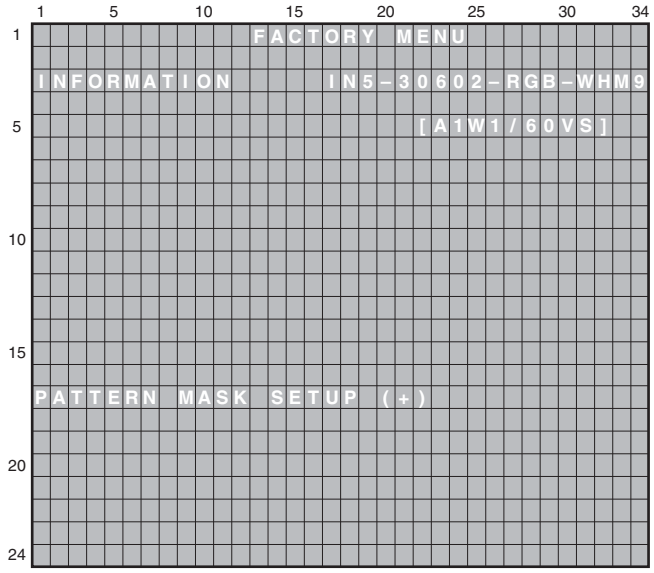
• The changed sequence and the ABL/WB table are retained until the mask is turned off.

<Next nested layer of RASTER MASK SETUP (+)>

No.	Item	OSD Indication	MASK Display Sequence	RS-232C COMMAND	Remarks
1	Mask off	MASK OFF		MKR/VFQ	
2	Display raster mask 01	RST MASK 01 <=>	<=>50V<=>60V<=>60P<=> 72V<=>75V1<=>75V2<=>		
...		...			
26	Display raster mask 25	RST MASK 25 <=>			

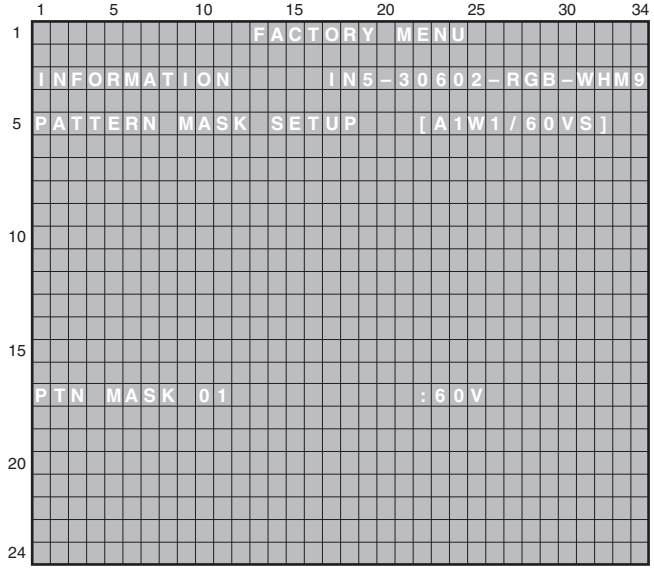
[2-10] PATTERN MASK SETUP (+)

• This menu set the PATTERN MASK and the drive sequence at PATTERN MASK state. Pressing the ENTER/SET key shifts the screen to the next nested layer below for item selection.



■ Key operation

<DOWN> : Shifting to COMBI MASK SETUP (+)
<UP> : Shifting to RASTER MASK SETUP (+)
<SET> : Shifting to the next nested layer



■ Key operation

<DOWN> : Shifting to the next MASK
<UP> : Shifting to the previous MASK
<RIGHT> : Changing MASK sequence (+)
<LEFT> : Changing MASK sequence (-)
<SET> : Determining the adjustment/setting value and shifting to the upper layer

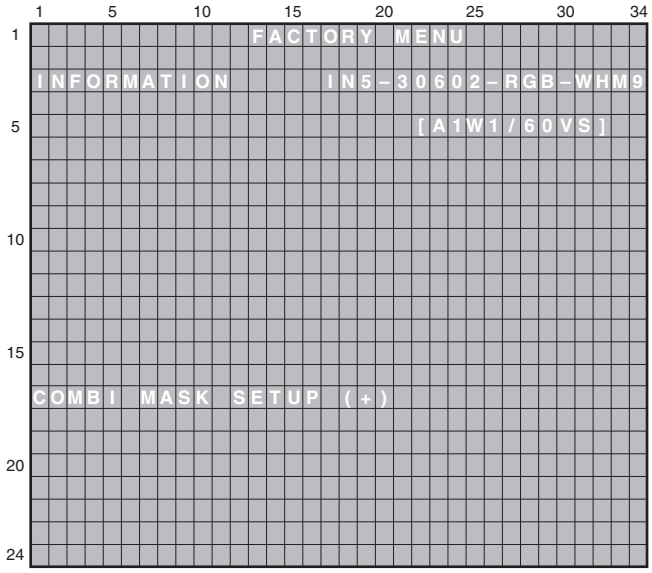
• The changed sequence and the ABL/WB table are retained until the mask is turned off.

<Next nested layer of PATTERN MASK SETUP (+)>

No.	Item	OSD Indication	MASK Display Sequence	RS-232C COMMAND	Remarks
1	Mask off	MASK OFF		MKS/VFQ	
2	Display raster mask 01	PTN MASK 01 <=>	<=>50V<=>60V<=>60P<=> 72V<=>75V1<=>75V2<=>		
...		...			
50	Display raster mask 49	PTN MASK 49 <=>			

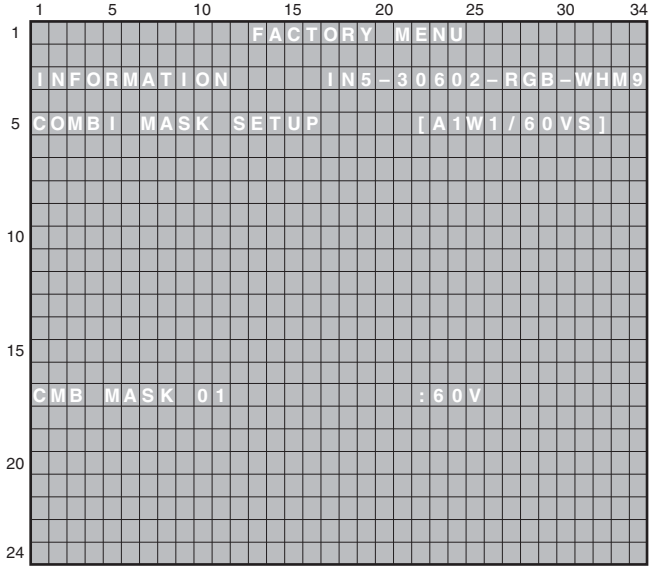
[2-11] COMBI MASK SETUP (+)

• This menu set the COMBI MASK and the drive sequence at COMBI MASK state. Pressing the ENTER/SET key shifts the screen to the next nested layer below for item selection.



■ Key operation

<DOWN> : Shifting to PANEL INFORMATION
<UP> : Shifting to PATTERN MASK SETUP (+)
<SET> : Shifting to the next nested layer



■ Key operation

<DOWN> : Shifting to the next MASK
<UP> : Shifting to the previous MASK
<RIGHT> : Changing MASK sequence (+)
<LEFT> : Changing MASK sequence (-)
<SET> : Determining the adjustment/setting value and shifting to the upper layer

• The changed sequence and the ABL/WB table are retained until the mask is turned off.

<Next nested layer of COMBI MASK SETUP (+)>

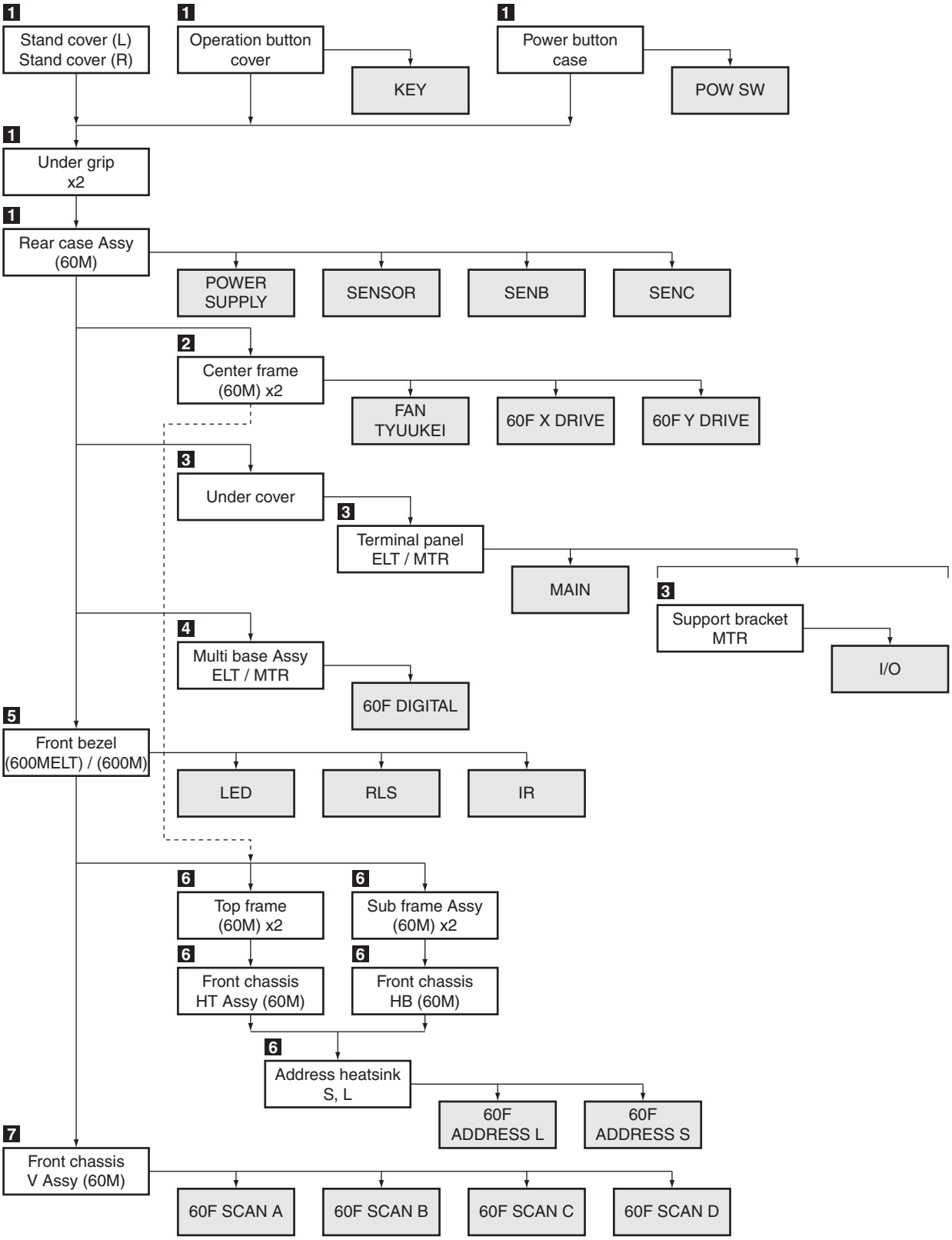
No.	Item	OSD Indication	MASK Display Sequence	RS-232C COMMAND	Remarks
1	Mask off	MASK OFF		MKC/VFQ	
2	Display raster mask 01	CMB MASK 01 <=>	<=>50V<=>60V<=>60P<=> 72V<=>75V1<=>75V2<=>		
...		...			
18	Display raster mask 17	CMB MASK 17 <=>			

7. DISASSEMBLY
7.1 FLOWCHART OF REMOVAL ORDER

Note: Even if the unit shown in the photos and illustrations in this manual may differ from your product, the procedures described here are common.

Flowchart of removal order for the main parts and boards

It is efficient to proceed with removal of the main parts and boards in the order shown in the chart below:



Disassembly

1 Rear Case Assy (60M)

● **Stand cover (L) and (R)**

① Remove the four N grip screws. (ABA1381)

② Remove the stand covers (L) and (R).

● **Operation button cover**

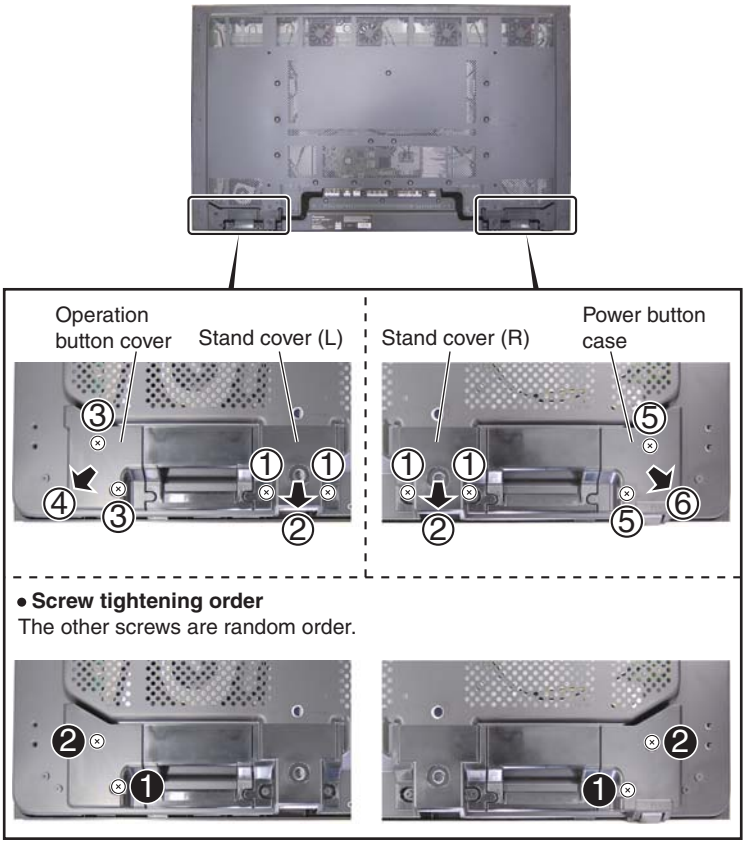
③ Remove the two screws. (ABA1379)

④ Remove the operation button cover.

● **Power button case**

⑤ Remove the two screws. (ABA1379)

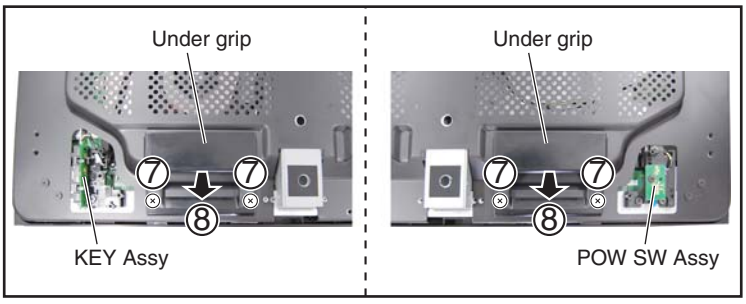
⑥ Remove the power button case.



● **Under grip**

⑦ Remove the four N grip screws. (ABA1381)

⑧ Remove the two under grips.



● **Rear case Assy (60M)**

⑨ Remove the four screws. (ABA1380)

⑩ Remove the 19 N grip screws. (ABA1381)

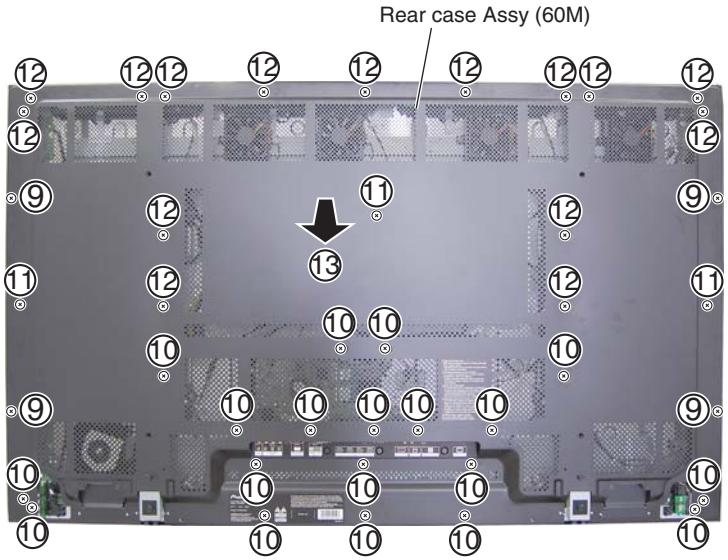
⑪ Remove the three screws. (ABA1379)

⑫ Remove the 15 N grip screws. (ABA1381)

⑬ Remove the rear case Assy (60M).

• **Reference**

ABA1379 ABA1380 ABA1381



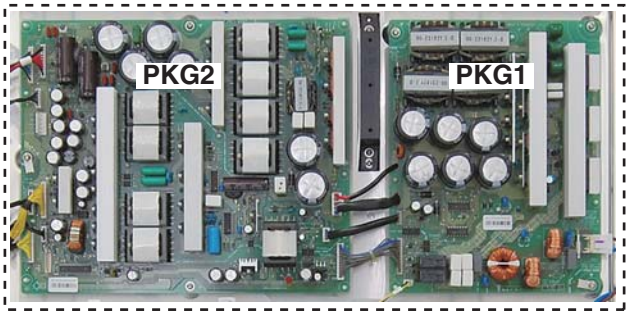
• **Screw tightening order**

The other screws are random order.

Notes on Removing the POWER SUPPLY Unit

1. Construction of the POWER SUPPLY Unit

The POWER SUPPLY Unit comprises two boards, which must be replaced at the same time.
(These boards are delivered as a set if ordered.)



POWER SUPPLY Unit

2. Discharge of residual electric charge

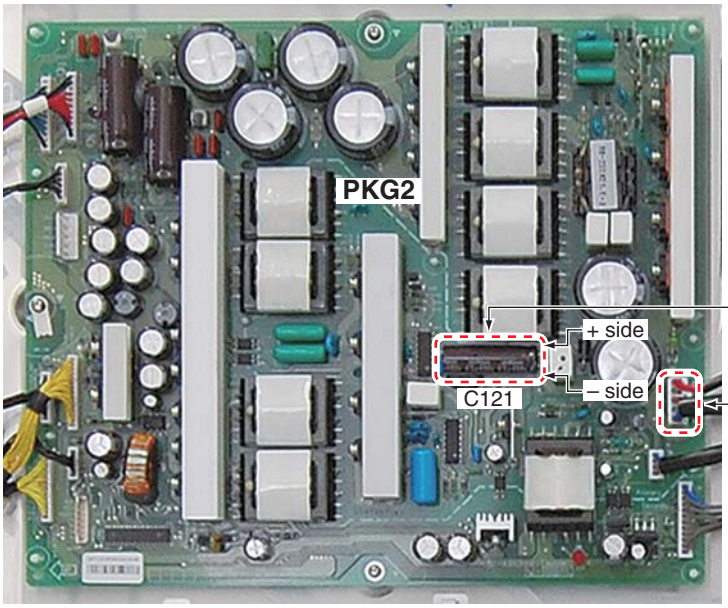
Immediately after the power cord is unplugged, residual electric charge remains for about 3-5 minutes in the capacitor inside the POWER SUPPLY Unit.
Before removing the POWER SUPPLY Unit, make sure that residual electric charge has fallen to a safe level.

How to discharge residual electric charge rapidly

Discharge residual electric charge by connecting two 220 Ω (10 W) forced discharging resistors (440 Ω in total,) one to each end, of C121.

<How to remove the POWER SUPPLY Unit>

① Make sure that the power cord is unplugged. Check the voltage of both ends of C121 on the PKG2, using a tester.
② Wait until the voltage at both ends of C121 has fallen to 5 V or less.
③ When the voltage becomes less than 5 V, disconnect the connectors of the POWER SUPPLY Unit then remove it.



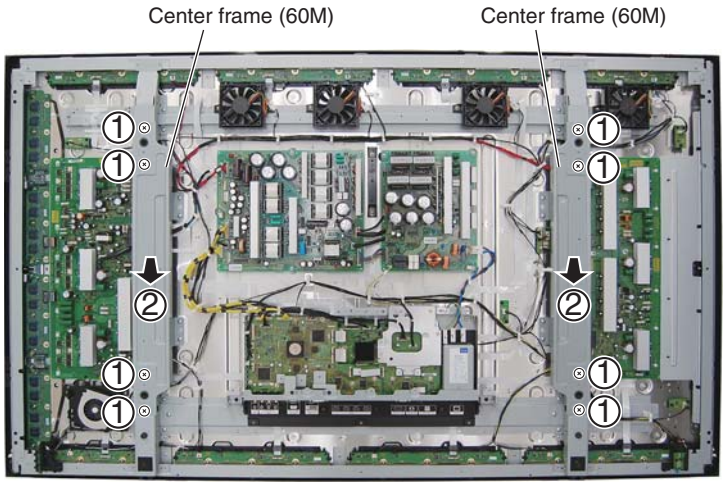
Points of checking residual electric charge:
After making sure that the voltage of both ends of C121 has fallen to 5 V or less, disconnect the PFC connector.

PFC connector
P14

2 Center Frame (60M)

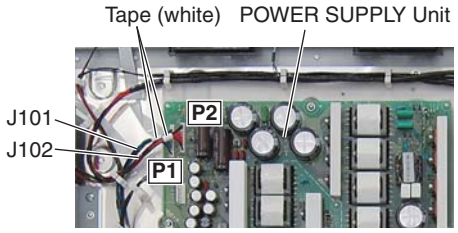
Note: The wiring shown in the photo is different from the actual wiring, because the product in the photo is a prototype. Upon servicing, be sure to restore the original wiring of the unit after repair work.

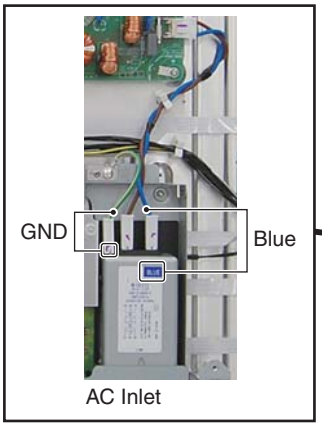
① Remove the eight screws. (AMZ40P080FTB)
② Remove the two center frames (60M).

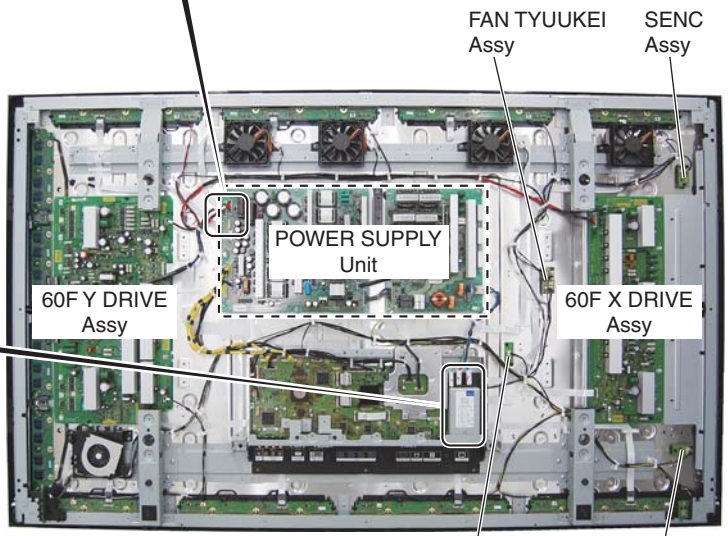


• **This photo. is PRO-141FD.**

The J101 and J102 cables require correct orientation for connection. Connect the connectors with white tape to the POWER SUPPLY Unit.







• **This photo. is PRO-141FD.**

PRO-141FD

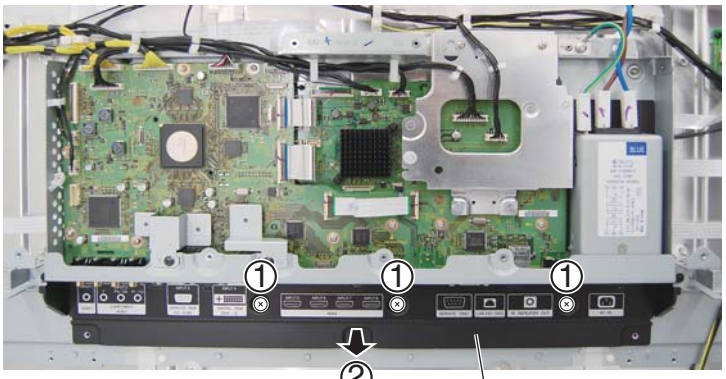
3 MAIN and I/O Assys

Note: The wiring shown in the photo is different from the actual wiring, because the product in the photo is a prototype. Upon servicing, be sure to restore the original wiring of the unit after repair work.

● **Under cover**

① Remove the three N grip screws. (ABA1381)

② Remove the under cover.



• **This photo. is PRO-141FD.**

Under cover

● **Terminal panel ELT / MTR**

① Remove the four screws. (AMZ30P060FTB)(PRO-141FD)
Remove the two screws. (AMZ30P060FTB)(KRP-600)

② Remove the two screws. (BPZ30P080FTB)(PRO-141FD)
Remove the four screws. (BPZ30P080FTB)(KRP-600)

③ Remove the six hexagon headed screws. (ABA1382)

④ Remove the four N grip screws. (ABA1381)

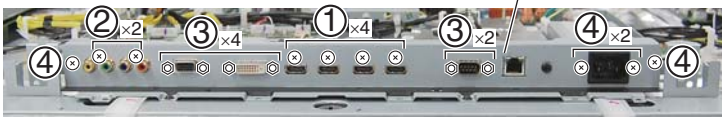
⑤ Remove the three N grip screws. (ABA1381)

⑥ Remove the two screws. (AMZ30P060FTB)

⑦ Remove the terminal panel.

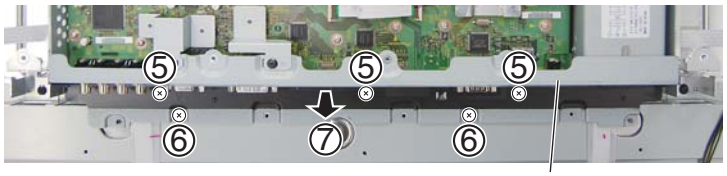
for PRO-141FD

Terminal panel ELT



for KRP-600M

Terminal panel MTR



Terminal panel ELT
Terminal panel MTR

• **Screw tightening order**

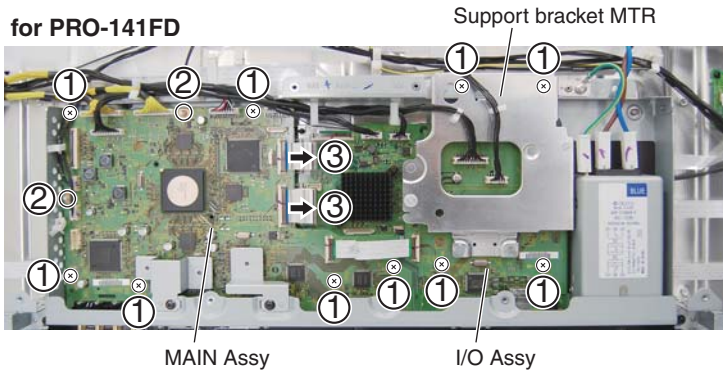
The other screws are random order.

PRO-141FD

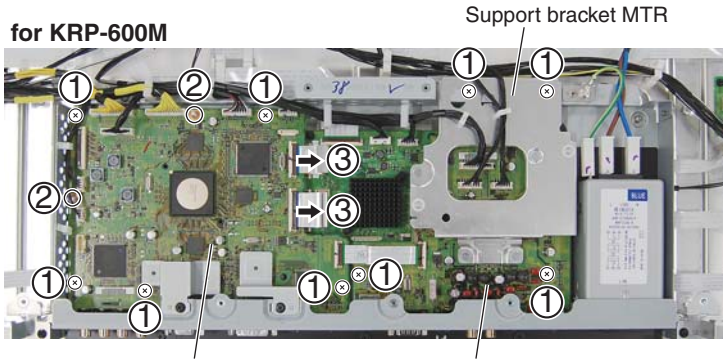
● MAIN and I/O Assys

① Remove the 10 screws. (PMB30P060FNI)(PRO-141FD)
Remove the nine screws. (PMB30P060FNI)(KRP-600M)
② Release the two PCB spacers (reuse).
③ Disconnect the two flexible cables.
④ Disconnect cables, connectors, as requied.

for PRO-141FD

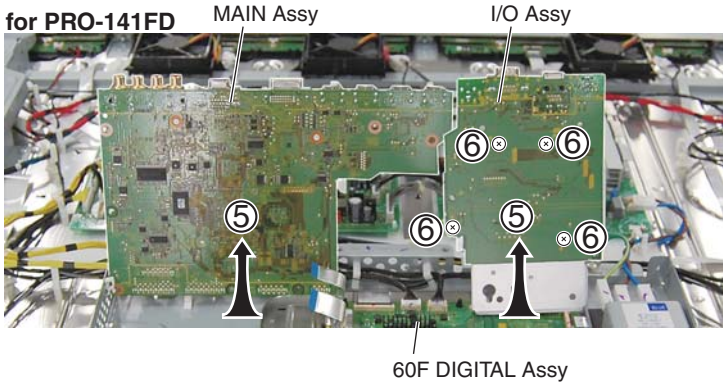


for KRP-600M

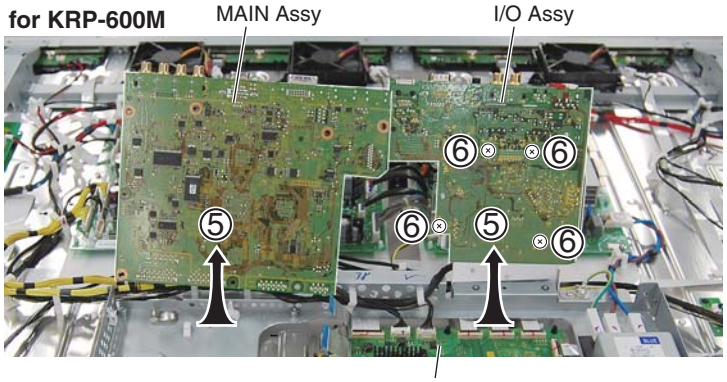


⑤ Lift the MAIN and I/O Assys to the direction of the arrow.
⑥ Remove the support bracket MTR by removing the four screws. (PMB30P060FNI)

for PRO-141FD



for KRP-600M



PRO-141FD

4 60F DIGITAL Assy

Note: The wiring shown in the photo is different from the actual wiring, because the product in the photo is a prototype. Upon servicing, be sure to restore the original wiring of the unit after repair work.

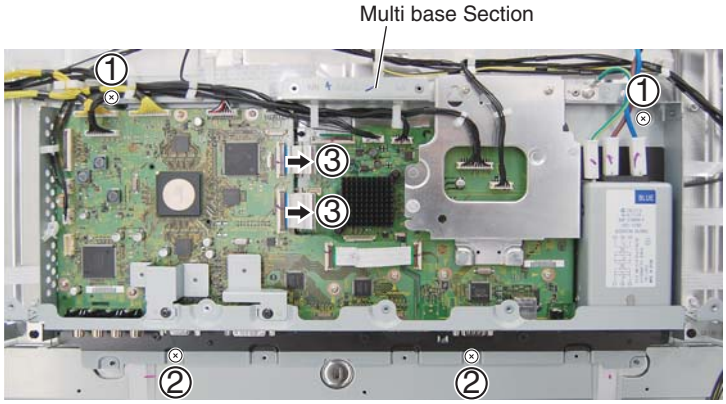
For Exchange

Note:
When you remove whole Multibase Section, it is not necessary to remove terminal panel.

① Remove the two screws.
(ABA1313 : PRO-141FD)
(ABA1351 : KRP-600M)

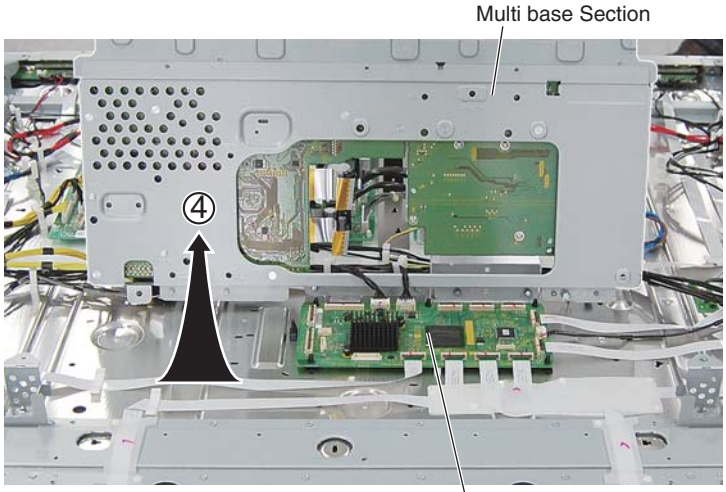
② Remove the two screws. (AMZ30P060FTB)

③ Disconnect the two flexible cables.



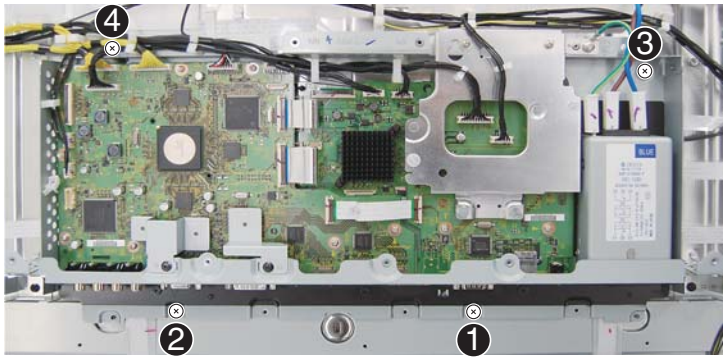
• This photo. is PRO-141FD.

④ Lift the multi base section to the direction of the arrow.



• This photo. is PRO-141FD.

• Screw tightening order



For Diagnosis

① Remove the two screws. (BPZ30P080FTB) (KRP-600M only)

② Remove the two hexagon headed screws. (ABA1382)

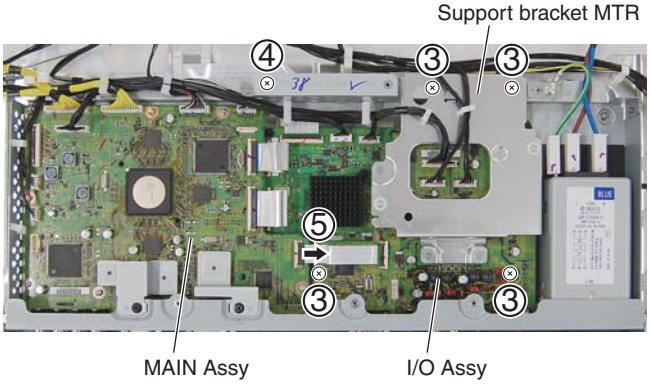
For PRO-141FD

For KRP-600M

③ Remove the four screws. (PMB30P060FNI)

④ Temporarily tighten one of the screws that was removed in Step ③.

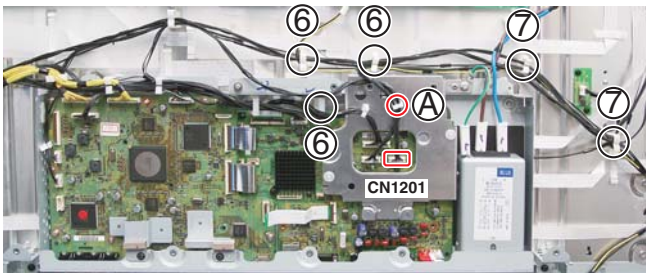
⑤ Disconnect the flexible cable from the MAIN Assy.



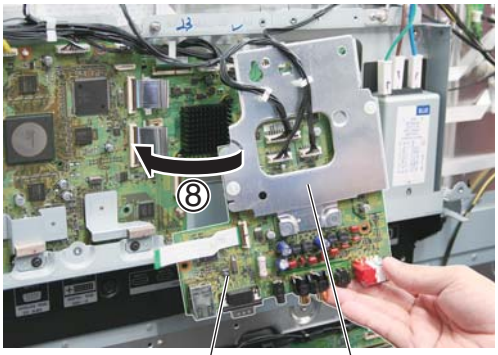
⑥ Remove all the cables that are connected to the I/O Assy from their clamps.

⑦ Remove the cables that are connected to the CN1201 connector from their clamps.

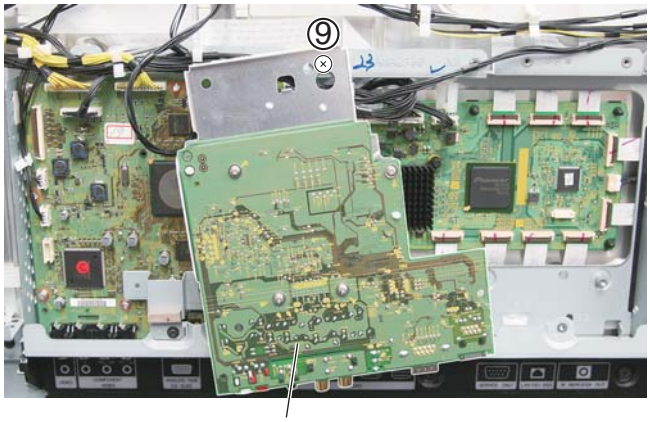
Note: In a case where the ambient temperature is 35 °C or less
You can reverse the I/O Assy in Step ⑧ without removing the cables from their clamps in Step ⑦ above, if you detach the CN1201 connector from the I/O Assy and remove the cables connected to the connector from Clamp Ⓐ.



⑧ Detach the I/O Assy with support bracket MTR attached. Reverse the I/O Assy in the direction shown in the photo below:



⑨ Hook support bracket MTR onto the temporarily tightened screw then reconnect the flexible cable to the MAIN Assy.

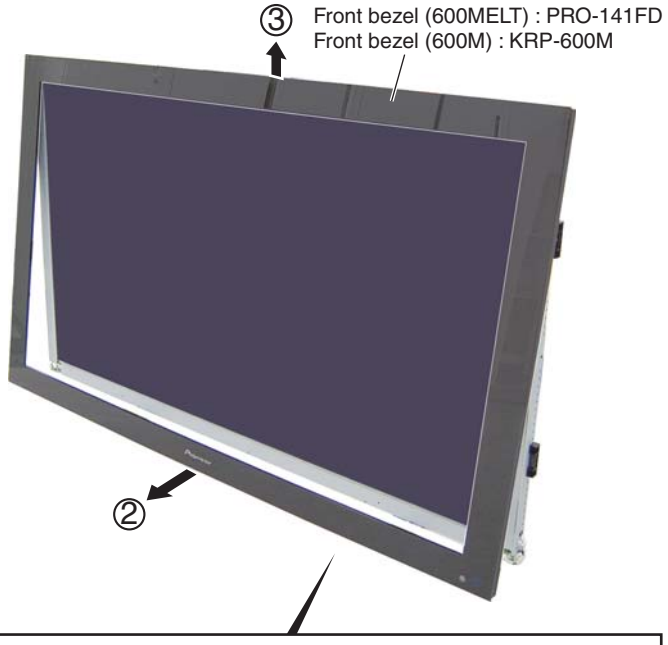


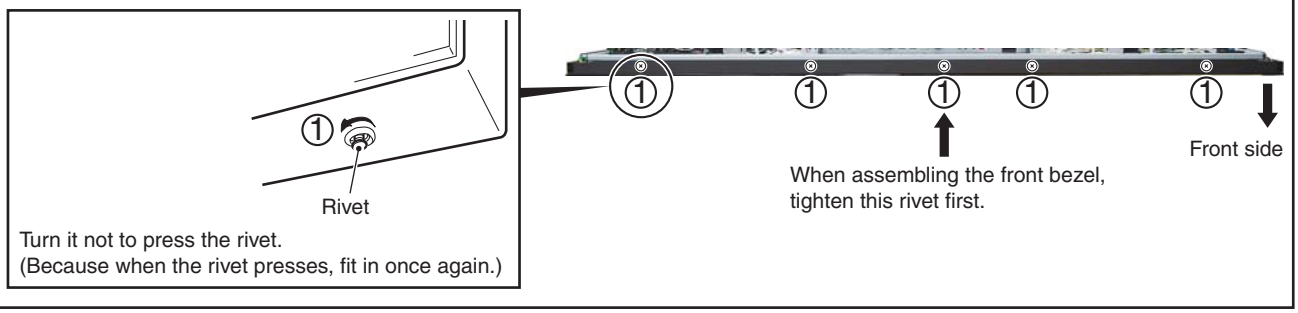
5 Front Bezel (600MELT) / (600M)

① Remove the five rivets.

② Pull the lower part of the front bezel toward you and out.

③ Remove the front bezel, by pulling it upward.





LED Assy

RLS Assy IR Assy

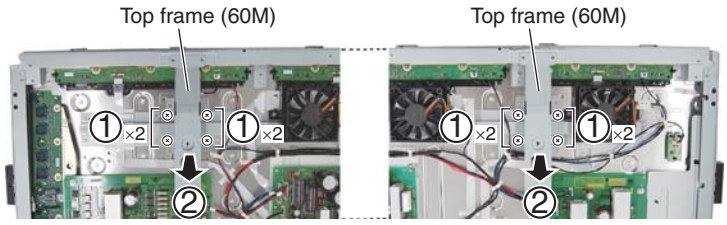
PRO-141FD

6 Access to 60F ADDRESS L and S Assys

● **Top frame (60M)**

① Remove the eight screws. (TBZ40P060FTC)

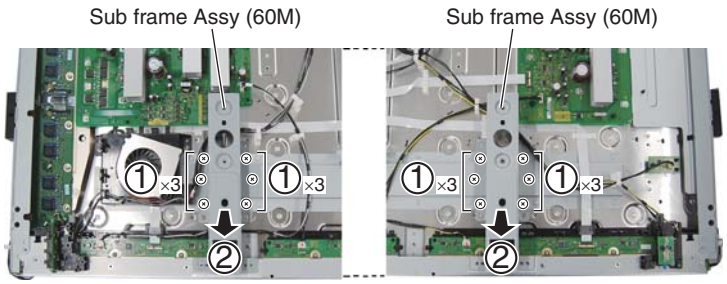
② Remove the two top frames (60M).



● **Sub frame Assy (60M)**

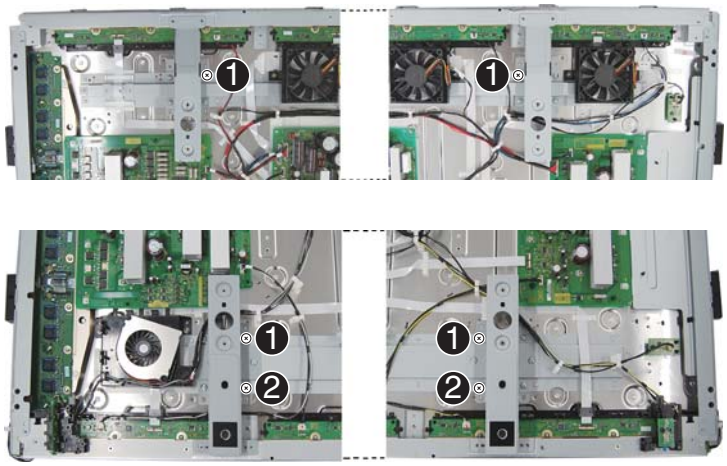
① Remove the 12 screws. (TBZ40P060FTC)

② Remove the two sub frame Assys (60M).



• **Screw tightening order**

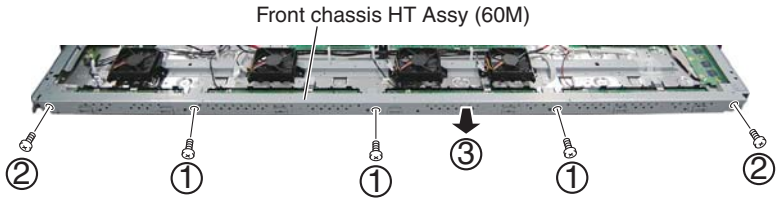
The other screws are random order.



PRO-141FD

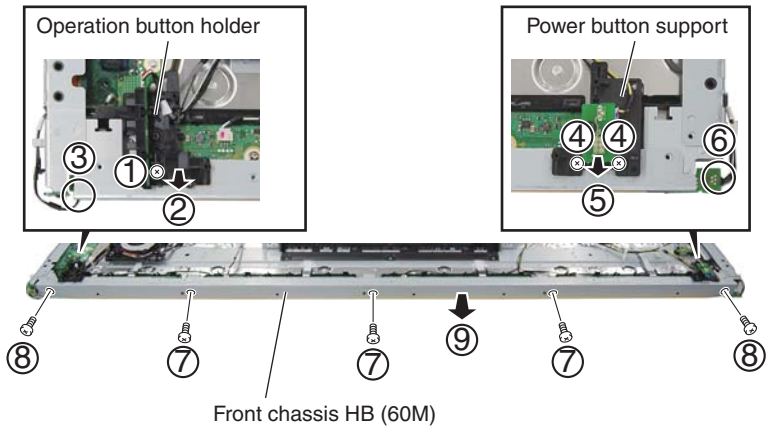
● **Front chassis HT Assy (60M)**

① Remove the three screws. (APZ30P080FTB)
② Remove the two screws. (ABZ30P080FTC)
③ Remove the front chassis HT Assy (60M).

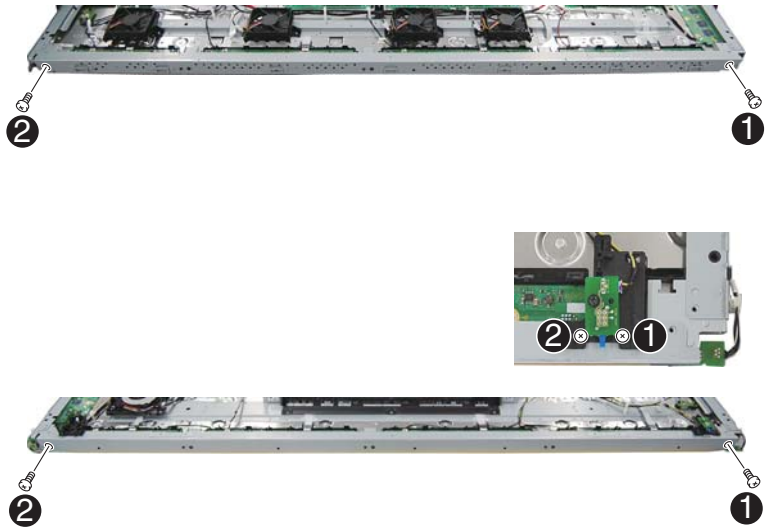


● **Front chassis HB (60M)**

① Remove the one N grip screw. (ABA1381)
② Remove the operation button holder.
③ Release the jumper wire.
④ Remove the two N grip screws. (ABA1381)
⑤ Remove the power button support.
⑥ Release the jumper wire.
⑦ Remove the three screws. (APZ30P080FTB)
⑧ Remove the two screws. (ABZ30P080FTC)
⑨ Remove the front chassis HB (60M).



• **Screw tightening order**
The other screws are random order.

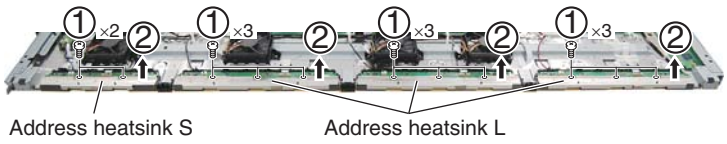


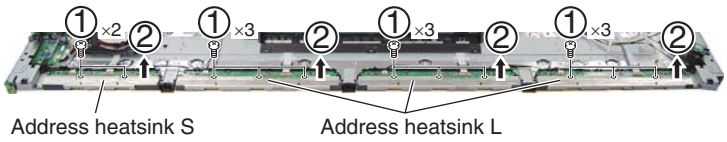
PRO-141FD

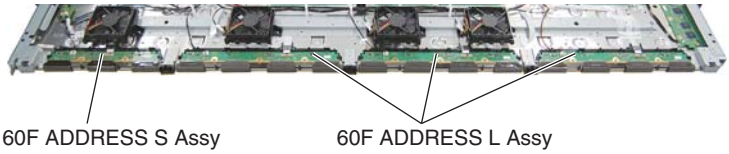
● **Address heatsink S and L**

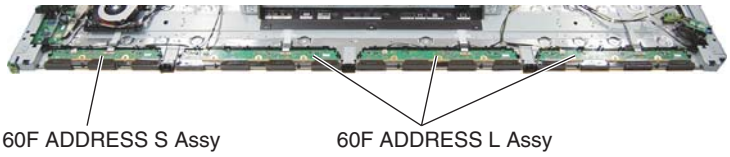
① Remove the 22 screws. (ABA1351)

② Remove the two address heatsinks S and six address heatsinks L.









7 Access to 60F SCAN A, B, C and D Assys

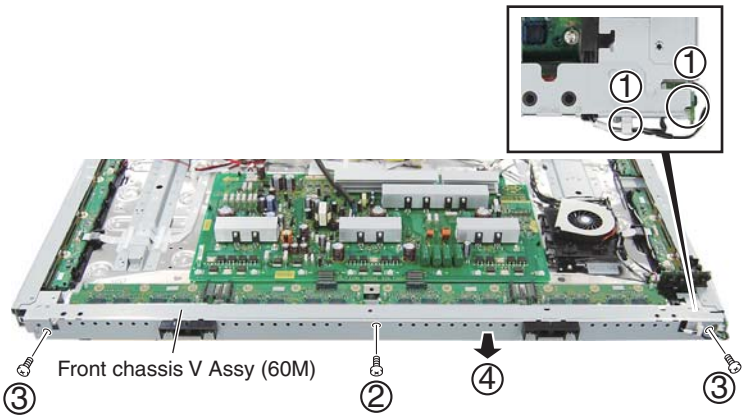
● **Front chassis V Assy (60M)**

① Release the two jumper wires.

② Remove the one screw. (APZ30P080FTB)

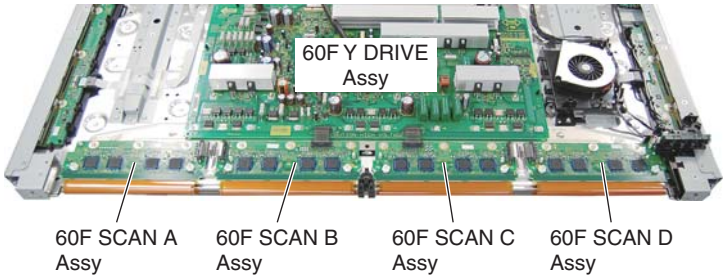
③ Remove the two screws. (ABZ30P080FTC)

④ Remove the front chassis V Assy (60M).



• **Screw tightening order**

The other screws are random order.



8. EACH SETTING AND ADJUSTMENT

1. At shipment, the unit is adjusted to its best conditions. Normally, it is not necessary to readjust even if an assembly is replaced. If the adjustment is shifted or if it becomes necessary to readjust because of part replacement, etc., perform the adjustment as described below.
2. Any value changed in Service/Factory mode will be stored in memory as soon as it is changed. Before readjustment, take note of the original values for reference in case you need to restore the original settings.
3. Use a stable AC power supply.

8.1 ADJUSTMENT REQUIRED WHEN THE UNIT IS REPAIRED OR REPLACED

■ When any of the following assemblies is replaced

POWER SUPPLY Unit	Refer to “8.3 HOW TO CLEAR HISTORY DATA” .
DIGITAL Assy	Writing of backup data is required. Refer to the “8.2 BACKUP OF THE EEPROM (DIGITAL ASSY)”.
X DRIVE Assy	No adjustment required
Y DRIVE Assy	No adjustment required
Service Panel Assy	Refer to “8.3 HOW TO CLEAR HISTORY DATA” and “8.4 ADJUSTMENTS WHEN THE SERVICE PANEL ASSY IS REPLACED”.
MAIN Assy (Note)	Execute section [4-5] AUTO ADJUSTMENT of 6.2 [4] INITIALIZE.
I/O Assy	No adjustment required
SENSOR Assy	No adjustment required Backup data are automatically copied during the next power-off.
Other assemblies	No adjustment required

Note: After the MAIN Assy is replaced, be sure to perform FINAL SETUP, according to the size and destination of the PDP. When performing FINAL SETUP using RS-232C commands, send the FAY command first then send necessary commands. When performing FINAL SETUP using the Factory menu, perform settings for OPTION on the Service Factory screen.

<Elite models>
60-inch, for North America: ELITE60 (FSTS82)

<Pioneer models>
60-inch, for Europe: PIO60 (FSTS92)
60-inch, for North America: PIO60_A (FSTS94)
60-inch, for Japan: PIO60_J (FSTS96)

■ When any of the following parts is replaced

Notes on replacing parts

For the parts described in the list below, replacement is required for the whole Assy, not only the defective part.
If any part listed below is identified as defective and needs replacement, replace the whole Assy, and make necessary adjustments after replacement.

PCB Assy No.	Assy Name	Parts that Require Whole-Assy Replacement		
		Ref No.	Function Name	Part No.
AWV2538	DIGITAL Assy	IC3302	Flash ROM	AGC1069
		IC3601	Flash UCOM	AGC1068
AWV2597	X DRIVE Assy	• Parts of X D-D CON BLOCK		
AWV2598	Y DRIVE Assy	• Parts of Y VF D-D CON BLOCK 1 • Parts of Y MAIN D-D CON BLOCK 1 • Parts of Y MAIN D-D CON BLOCK 2		
AWV2562 (PRO-141FD)	MAIN Assy	IC6704	Flash Memory IC	AGC1099
		IC7001	Flash UCOM	AGC1103
AWV2563 (KRP-600M)	MAIN Assy	IC6704	Flash Memory IC	AGC1100
		IC7001	Flash UCOM	AGC1101
AWW1373 (PRO-141FD) AWW1384 (KRP-600M)	MAIN Assy	IC4605	Plug & Play EEPROM	BR24C21FJ
		IC4701	Video SW IC	CXA2240AR-K
		IC5001	3CH ADC	THC7980-17-K
		IC5101	EEPROM	BR24L02FV-W
		IC5102	EEPROM	BR24L02FV-W
		IC5202	EEPROM	BR24L02FV-W
		IC5203	EEPROM	BR24L02FV-W
		IC6701	DDR SDRAM (128MBIT)	EDD1232ABBH-5C-E-K
		IC6702	DDR SDRAM (128MBIT)	EDD1232ABBH-5C-E-K
		IC6703	DDR SDRAM (128MBIT)	EDD1232ABBH-5C-E-K
		IC7002	128K EEPROM	24LC128(I)SN
AWW1379 (PRO-141FD) AWW1385 (KRP-600M)	I/O Assy	IC2803	IC (EEPROM)	BR93L46RFVM-W

Reason: The whole Assy must be replaced, because adjustments and data rewriting for the Assy at the level of production line are required.

For the parts described in the table below, replacement of individual parts is difficult, because a heat pad is provided under the bottom of the ICs.

PCB Assy No.	Assy Name	Parts that Replacement is Possible		
		Ref No.	Function Name	Part No.
AWW1373 (PRO-141FD) AWW1384 (KRP-600M)	MAIN Assy	IC4702	Regulator IC	PQ200WNA1ZPH
		IC4703	Regulator IC	NJM2846DL3-05
		IC4803	Regulator IC	NJM2846DL3-33
		IC4804	Regulator IC	NJM2846DL3-18
		IC5004	Regulator IC	NJM2846DL3-33
		IC5005	Regulator IC	NJM2846DL3-18
		IC5301	HDMI Receiver	SII9125CTU-K
		IC5302	Regulator IC	NJM2846DL3-18
AWW1379 (PRO-141FD) AWW1385 (KRP-600M)	I/O Assy	IC1201	Regulator IC	PQ200WNA1ZPH
		IC1202	Regulator IC	PQ200WNA2ZPH
		IC3103	Regulator IC	PQ200WNA2ZPH

POWER SUPPLY Unit	➡	The assembly must be replaced as a unit, and no part replacement is allowed.
MAIN Assy	➡	No adjustment is required after replacement of parts other than those mentioned above.
I/O Assy	➡	No adjustment is required after replacement of parts other than those mentioned above.
DIGITAL Assy	➡	No adjustment required
X DRIVE Assy	➡	No adjustment is required after replacement of parts other than those shown in “8.5 ADJUSTMENT WHEN THE DRIVE ASSYS ARE REPLACED.
Y DRIVE Assy	➡	No adjustment is required after replacement of parts other than those shown in “8.5 ADJUSTMENT WHEN THE DRIVE ASSYS ARE REPLACED.
ADDRESS Assy	➡	No adjustment required
SENSOR Assy	➡	No adjustment required
Other assemblies	➡	No adjustment required

8.2 BACKUP OF THE EEPROM (DIGITAL ASSY)

■ Outline

Adjustment data are stored in the EEPROM on the DIGITAL Assy in the production process. Those adjustment data are also automatically stored in the EEPROM (for backup) on the SENSOR Assy.
If the DIGITAL Assy is replaced, those adjustment data for backup can be copied from the EEPROM on the SENSOR Assy to a new DIGITAL Assy.

■ Backed up data

- Drive voltage adjustment value
- Panel white balance adjustment value
- Drive waveform adjustment value
- Hour-meter count
- Pulse-meter count
- P-ON counter value
- Serial No.
- PD/SD histories

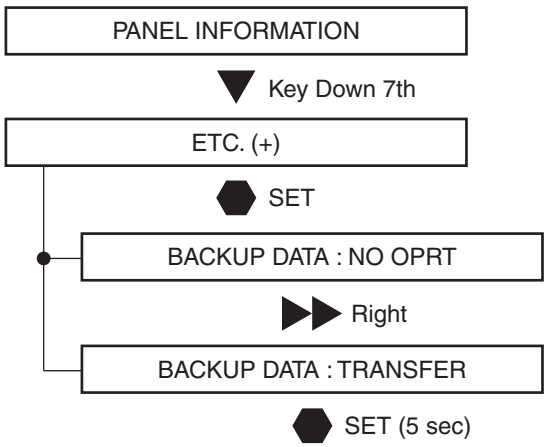
■ How to copy backup data

1. When the DIGITAL Assy is replaced with one for service (usual service)

Immediately after the DIGITAL Assy is replaced, the EEPROM on the DIGITAL Assy is in the status "adjustment not completed," and the EEPROM for backup on the SENSOR Assy is in the status "adjustment completed." The LED on the main unit warns you that the adjustment data in the EEPROM for backup have not been copied to the EEPROM on the DIGITAL Assy, by lighting the red LED and flashing the blue LED. In such a case, the adjustment data for backup can be used by copying the data to the EEPROM on the DIGITAL Assy, with the following procedures:

(1) Copying, using the Factory menu

① Turn on the power.
② Enter the Panel Factory mode.
③ Display the PANEL INFORMATION page, then check if "NO DATA!" is set for "DIG. EEP" and "ADJUSTED" is set for "BACKUP".
④ Copy the backup data, as shown in the figure below.



⑤ Check if "ADJUSTED" is set for "DIG. EEP" on the PANEL INFORMATION page.
⑥ Turn off the power.

(2) Copying, using the RS-232C commands

① Turn on the power.
② Issue the FAY command.
③ With the QS2 command, confirm that the main unit adjustment flag is "adjustment not completed" and that the adjustment backup flag is "adjustment completed."
④ Issue the BCP command to transfer the data stored in the EEPROM for backup.
⑤ With the QS2 command, confirm that the main unit adjustment flag becomes "adjustment completed."
⑥ Turn off the power.

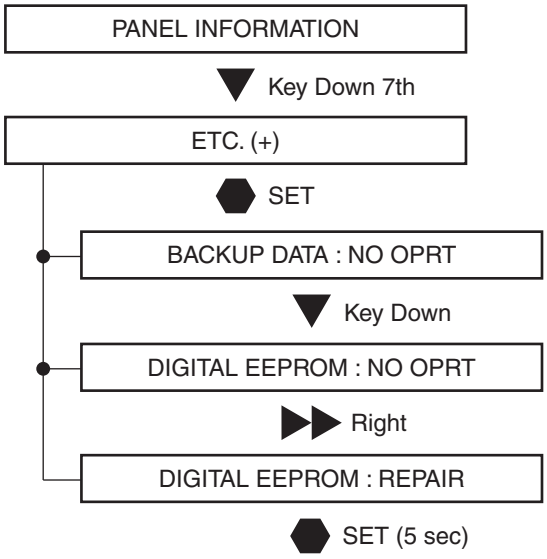
Note: If both the DIGITAL and SENSOR Assys are to be replaced, replace the SENSOR Assy first in order to store the backup data. Then turn the unit on then back off again, then replace the DIGITAL Assy.

2. When manual adjustment is required after the DIGITAL Assy is replaced with one for service

If backup data cannot be transferred to the DIGITAL Assy because of defective parts, etc., after the DIGITAL Assy is replaced and manual adjustment is performed, those manually adjusted data can be registered as adjusted data with the following procedures. Once the data on the DIGITAL Assy are registered as adjusted data, the adjustment data for backup will be automatically updated each time the unit is turned off. Therefore, if a DIGITAL Assy with adjusted data is mounted on the unit, the following procedures are not required, even after manual adjustment.

(1) Copying, using the Factory menu

① Turn on the power.
② Enter the Panel Factory mode.
③ Display the PANEL INFORMATION page, then check if "NO DATA!" is set for "DIG. EEP".
④ Register the changed adjustment data as adjusted data, as described for the following procedures, then transfer them as backup data.



⑤ Check if "ADJUSTED" is set for "DIG. EEP" on the PANEL INFORMATION page.
⑥ Turn off the power.

(2) Copying, using the RS-232C commands

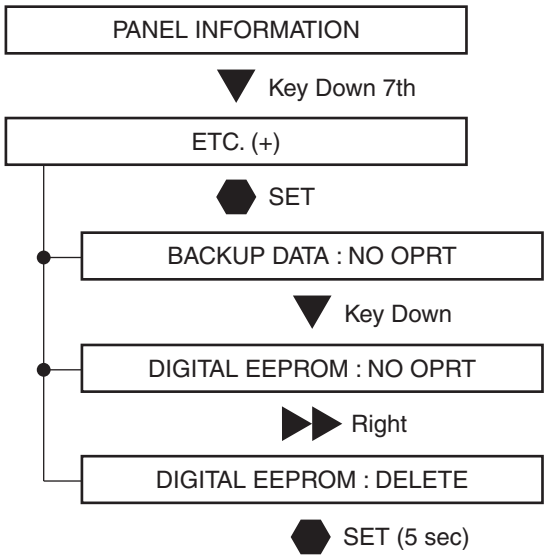
① Turn on the power.
② Issue the FAY command.
③ With the QS2 command, confirm that the main unit adjustment flag is "adjustment not completed."
④ Issue the FAJ command to register the changed adjustment data as adjusted data then transfer them as backup data.
⑤ With the QS2 command, confirm that the main unit adjustment flag becomes "adjustment completed."
⑥ Turn off the power.

3. When a secondhand DIGITAL Assy is to be reused

A DIGITAL Assy in good condition that had been mounted in another product can be reused. Before reuse, by following the procedures described below, make the data in the EEPROM on the DIGITAL Assy "adjustment not completed" data in order to prevent accidental updating of backup data when the secondhand DIGITAL Assy is mounted in another product

(1) Copying, using the Factory menu

① Turn on the power.
② Enter the Panel Factory mode.
③ Display the PANEL INFORMATION page, then check if "ADJUSTED" is set for "DIG. EEP".
④ Make the data in the EEPROM on the DIGITAL Assy "adjustment not completed" data, by following the procedures below:



⑤ Check if "NO DATA!" is set for "DIG. EEP" on the PANEL INFORMATION page.
⑥ Turn off the power.

(2) Copying, using the RS-232C commands

① Turn on the power.
② Issue the FAY command.
③ With the QS2 command, confirm that the main unit adjustment flag is "adjustment completed."
④ Issue the UAJ command to make the data in the EEPROM on the DIGITAL Assy "adjustment not completed" data.
⑤ With the QS2 command, confirm that the main unit adjustment flag becomes "adjustment not completed."
⑥ Turn off the power.

Note: If you mount a secondhand Assy to the product without performing the above procedures, the adjustment data and logs for the main unit specific to the product will be erased, and those of the secondhand Assy will be copied when the unit is turned off.

8.3 HOW TO CLEAR HISTORY DATA

■ Clearance of various logs after the Assys are replaced

Besides adjustment data, data on accumulated power-on time and logs on defective parts of the product are backed up.
Some of those data must be cleared after the Assys are replaced for service.
Clearance of those data can be performed in the ETC layer of the Factory menu or with RS232C commands.

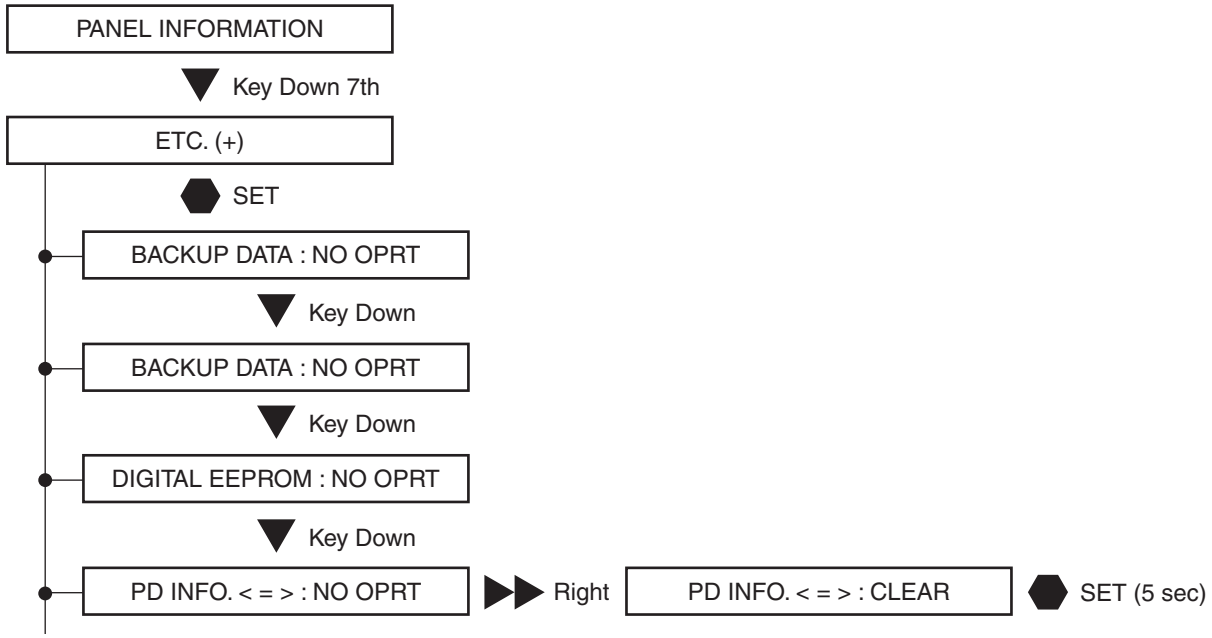
Item	Content	Clearing at the Replacement			Clearing method	
		Panel	POWER SUPPLY Unit	Other parts	Factory Menu (ETC layer)	RS-232C Commands
Hour-meter	Accumulated power-on time	Must be cleared	No need to be cleared	No need to be cleared	HR-MTR INFO.	CHM
Pulse-meter	Accumulated number of pulses emitted	Must be cleared (mandatory)	No need to be cleared	No need to be cleared	PM/B1-B5	CPM
Shutdown history of the panel	Causes and hour-meter values for the last eight shutdowns (SD) of the Panel	Must be cleared	No need to be cleared	No need to be cleared	SD INFO.	CSD
Power-down history	Causes and hour-meter values for the last eight power-downs (PDs) of the Panel	Must be cleared	No need to be cleared	No need to be cleared	PD INFO.	CPD
Power-on counter	Relay-on count	No need to be cleared	Must be cleared (mandatory)	No need to be cleared	P COUNT INFO.	CPC
MAX TEMP	Historical max. temperature of the panel	Must be cleared	Must be cleared	Must be cleared	MAX TEMP.	CMT

Notes: • As the pulse-meter count is used for each correction function, the log must be cleared when the panel is replaced.
• After you clear the log, the unit must be turned off then back on again to reflect the cleared data for each correction function. If any adjustment is required after clearing the log, be sure to turn the unit off then back on again before adjustment.

(1) Clearance of logs, using the Factory menu

① Turn on the power.
② Enter the Panel Factory mode.
③ Clear the various logs, as shown in the figure below.

Note: The following example shows how to clear the PD log (PD INFO.). To clear other items, select each item you wish to clear then perform the same procedures.



④ Turn off the power.

(2) Using the RS-232C commands

① Turn on the power.
② Issue the FAY command.
③ Issue the Delete command for a log you wish to clear.
④ Turn off the power.

8.4 ADJUSTMENT WHEN THE SERVICE PANEL ASSY IS REPLACED

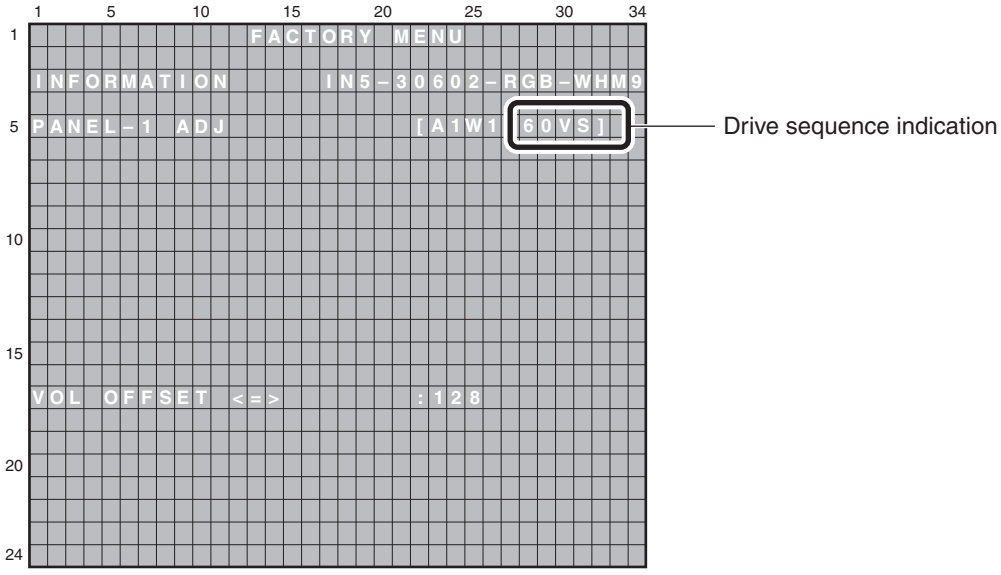
After the panel is replaced with one for service, voltage margin adjustment is required.

[Preparation]

Basically, voltage margin adjustment is performed using the Panel Factory menu.
After the panel is replaced and the unit is turned on, clear the pulse meter first.
For details on how to clear the pulse meter, see "8.3 HOW TO CLEAR HISTORY DATA".

∗1: As various corrections are made referring to the pulse-meter count to calculate how long the panel has been used, if adjustment of the panel for service is performed without clearing the pulse-meter count, proper adjustments will not be performed.
∗2: The drive sequence for Video 60-Hz is used for adjustment. When adjustment is made using the Panel Factory menu, the current drive sequence is displayed on the screen, as shown in the figure below. Make sure that 60VS is always indicated during adjustment.

∗3: Select the input fuction excepting PC.

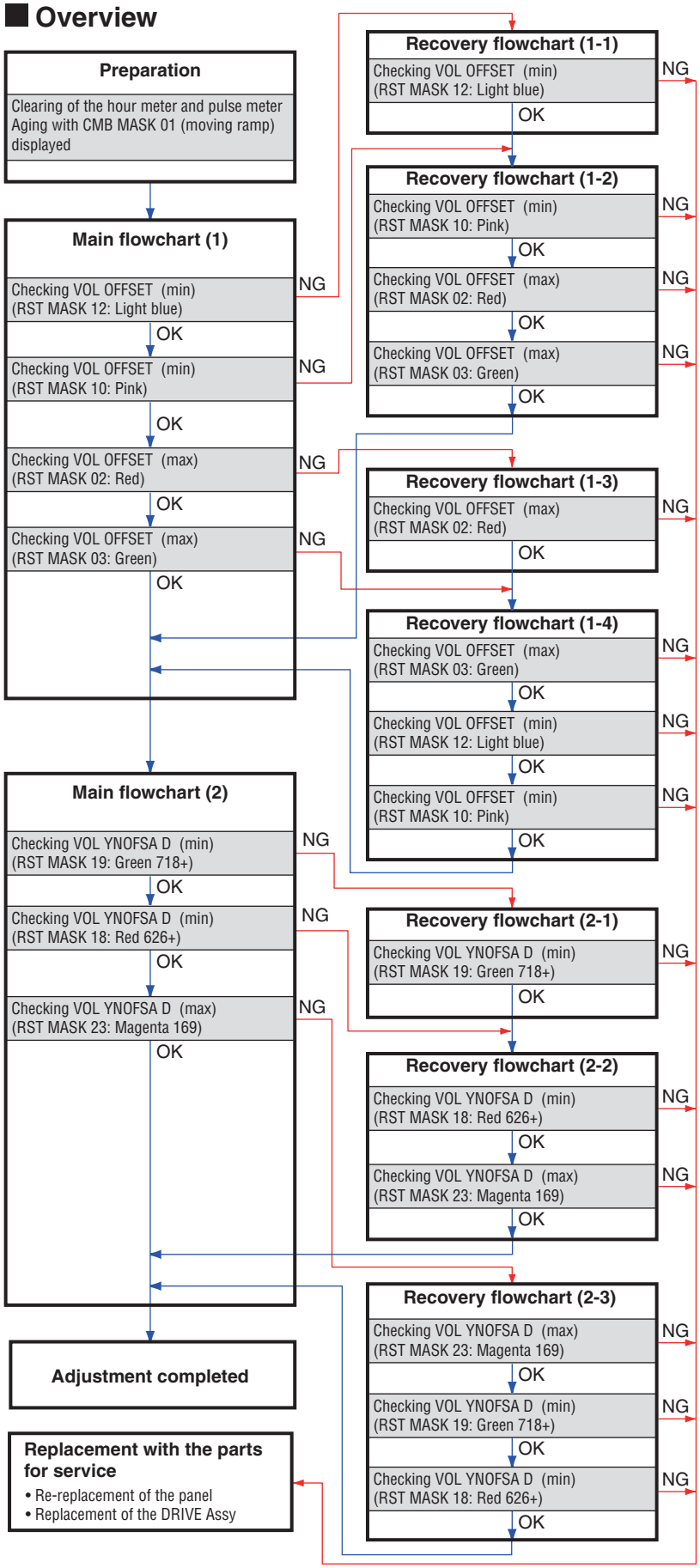


Example of the On-Screen display during Panel Factory mode

[Supplement]

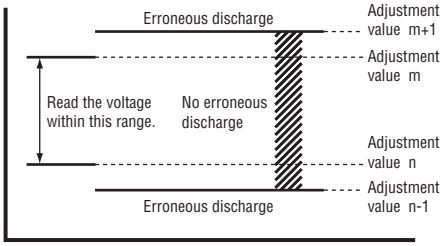
In the "PANEL-1ADJ" layer, the Panel White Balance value is reset to default, Panel Gamma is set to Straight, Noise is set to OFF, LUT mode is set to ON and Reset active control is set to OFF.
If adjustment is performed using RS232C commands, unlike the case of Factory menu operation, adjustments are not interlocked. Therefore, settings must be performed individually, by issuing commands. (See the section on preparations before adjustment.)

Overview



Range of margin measuring

Read the voltage within the hysteresis (stricter value).



Definition of limits for the voltage margins (abnormal lit/dead cells)

Abnormal lit cells:

- Five or fewer abnormal cells on the whole screen
- Two or fewer abnormal cells within a radius of 1 cm

Abnormal dead cells

- Fifteen or fewer abnormal cells on the whole screen
- Two or fewer abnormal cells within a radius of 1 cm

∗: Abnormal cells visually recognizable at a distance of 1 meter from the panel must be counted.
∗: Cells displayed abnormally for less than one second are not counted as abnormal cells.

Definition of tones for the measuring signals

FHD signal (1920*1080)/Video 60-Hz sequence /Dither: ON, L dither: ON, noise: OFF

Red	RST MASK 02 (R 1023 /G 0 /B 0)
Green	RST MASK 03 (R 0 /G 1023 /B 0)
Pink	RST MASK 10 (R 908 /G 718 /B 908)
Light blue	RST MASK 12 (R 447 /G 812 /B 812)
Red 626+	RST MASK 18 (R 626 /G 120 /B 120)
Green 718+	RST MASK 19 (R 120 /G 718 /B 120)
Magenta 169	RST MASK 23 (R 169 /G 0 /B 169)

Interlocked settings for Voltages Vyknofs1/3/4

For the 9th-generation PDPs, interlocked setting for Voltages Vyknofs1/3/4 is available on the Factory menu or with RS232C commands, for easier adjustment. Therefore, in the adjustment flowchart, the interlocked setting function is used. (Individual setting for each adjustment value is also possible, as in the conventional setting methods.

Set Voltage	Factory Menu	Command
Vyknofs1 individual	VOL YNOFS1 D	[V1F]
Vyknofs3 individual	VOL YNOFS3 D	[V3F]
Vyknofs4 individual	VOL YNOFS4 D	[V4F]
Vyknofs1,3,4 interlocked	VOL YNOFSA D	[VYF]

Note:

- The initial value for the interlocked setting value is 128, including for factory preset values.
- See "[3] DRIVE ASSY" of "5.2 DIAGNOSIS FLOWCHART OF FAILURE ANALYSIS" for calculation of actually used voltage values.

Preparation before adjustment

[Replacement with the panel for service is completed.]

Procedures for resetting corrections for change over time

Turn the unit on. / [PON]

Enter Factory mode. / [FAY]

Set PM/B1-B5 to CLEAR (to clear the pulse meter). / [CPM]

Set HR-MTR to CLEAR (to clear the hour meter). / [CHM]

Turn the unit off. / [POF]

∗ To reflect the results of log clearing for each correction function, the unit must be turned off then back on again. Before adjustment, be sure to turn the unit off then back on again.

Procedures for stabilizing the panel before adjustment

Turn the unit on. / [PON]

Enter Factory mode. / [FAY]

Enter the tentative setting value of the replacement panel

Setting Item	Tentative Setting Value
VOL SUS / [VSU ∗∗∗]	128
VOL OFFSET / [VOF ∗∗∗]	VOF indication value
VOL RST P / [VRP ∗∗∗]	VRP indication value
VOL XPOFS1 / [VX1 ∗∗∗]	105
VOL XPOFS2 / [VX2 ∗∗∗]	063
VOL YNOFS1 D / [V1F ∗∗∗]	V1F indication value
VOL YNOFS3 D / [V3F ∗∗∗]	V3F indication value +0
VOL YNOFS4 D / [V4F ∗∗∗]	V4F indication value
VOL YNOFSA D / [VYF ∗∗∗]	128

Note: "+0" shows α.

Indication example of the adjustment label of service panel

AWU1287 Data VOF=068
VRP=018 V1F=086 V3F=096+α
V4F=143 Hour Meter_ _ _ _ _ _ _ _ _ _ H
Data 08/02/28 Chassis CXX99999
Time 18:27 Pnl FTEST123456

Note: The symbol "α" denotes the adjustment value plus 0.

∗ Each setting value described on the adjustment label denotes an indicated data value but not a real voltage value. Therefore, just enter the data value as a setting value.

Display CMB MASK 01 (moving ramp). / [MKC S01]

Select Video 60-Hz sequence. / [VFQ S03]

∗ To store the VFQ S03 command in memory, transmit it after displaying the mask.

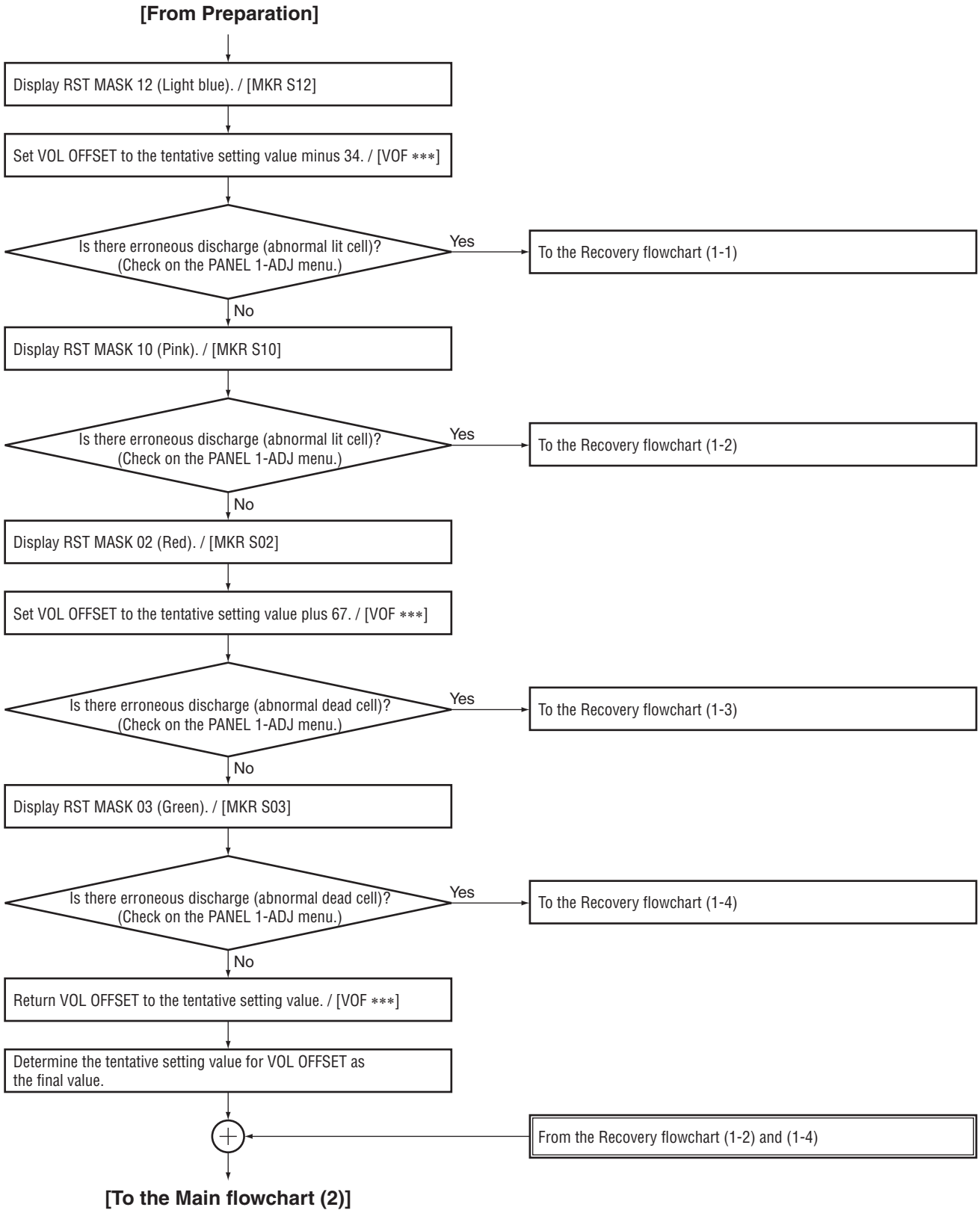
Perform aging for 30 minutes.

[To the Main flowchart (1)]

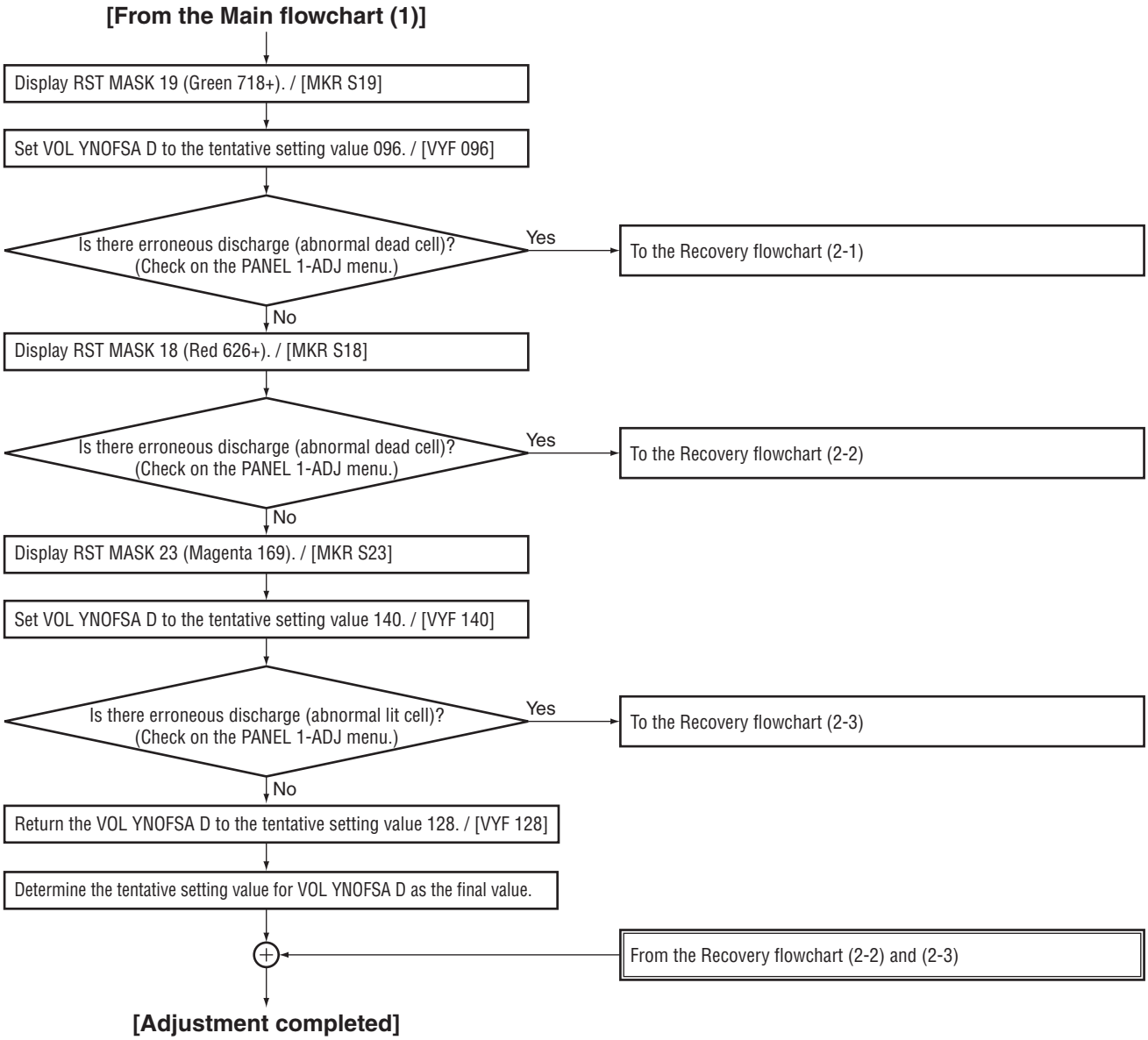
Note:
* When you perform the adjustment with RS232C commands, issue the following commands in addition.
* If the unit is shut down in the middle of performing the adjustment flowchart, reissuing of the command is required.

[PAV S00] : To set panel drive mode to Factory
[VFQ S03] : To set Drive Sequence to Video 60-Hz
[SQM S01] : To set Drive Sequence to Video
[WBI S01] : To temporarily reset the Panel WB adjustment value to default (WBI S00 cancels this setting.)
[PGR S00] : To set the gamma R value to that for Factory mode
[PGG S00] : To set the gamma G value to that for Factory mode
[PGB S00] : To set the gamma B value to that for Factory mode
[DIZ S03] : Dither ON, L dither ON, noise OFF.
[$1800000001] : LUT mode ON

Main flowchart (1)...Checking VOL OFFSET



Main flowchart (2)...Checking VOL YNOFSA D



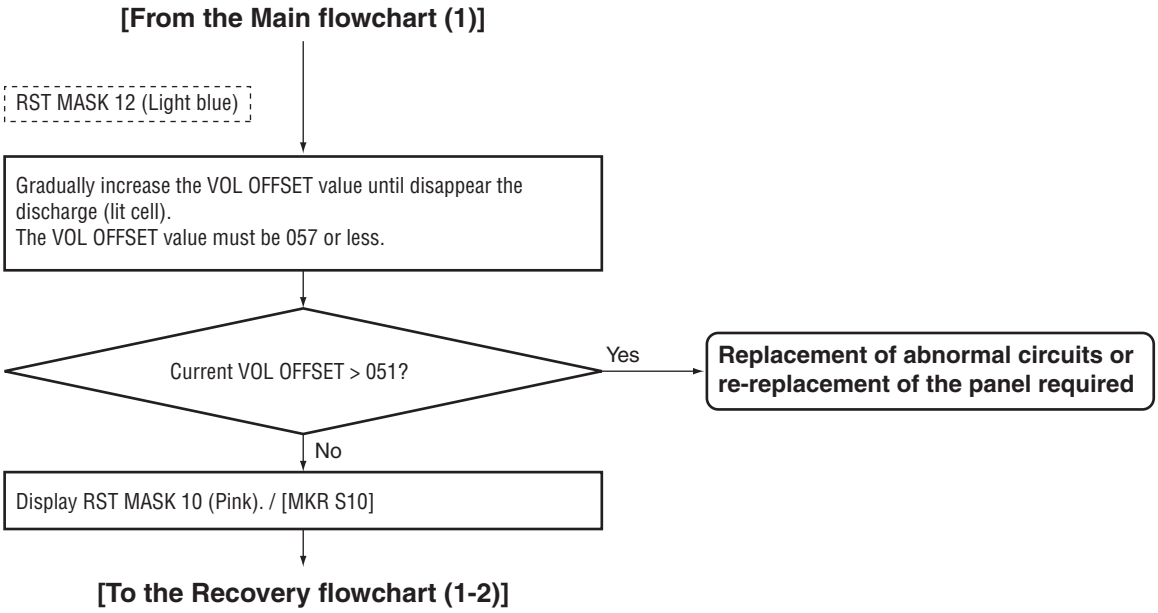
Note:

Make sure that the following values become the final setting values.

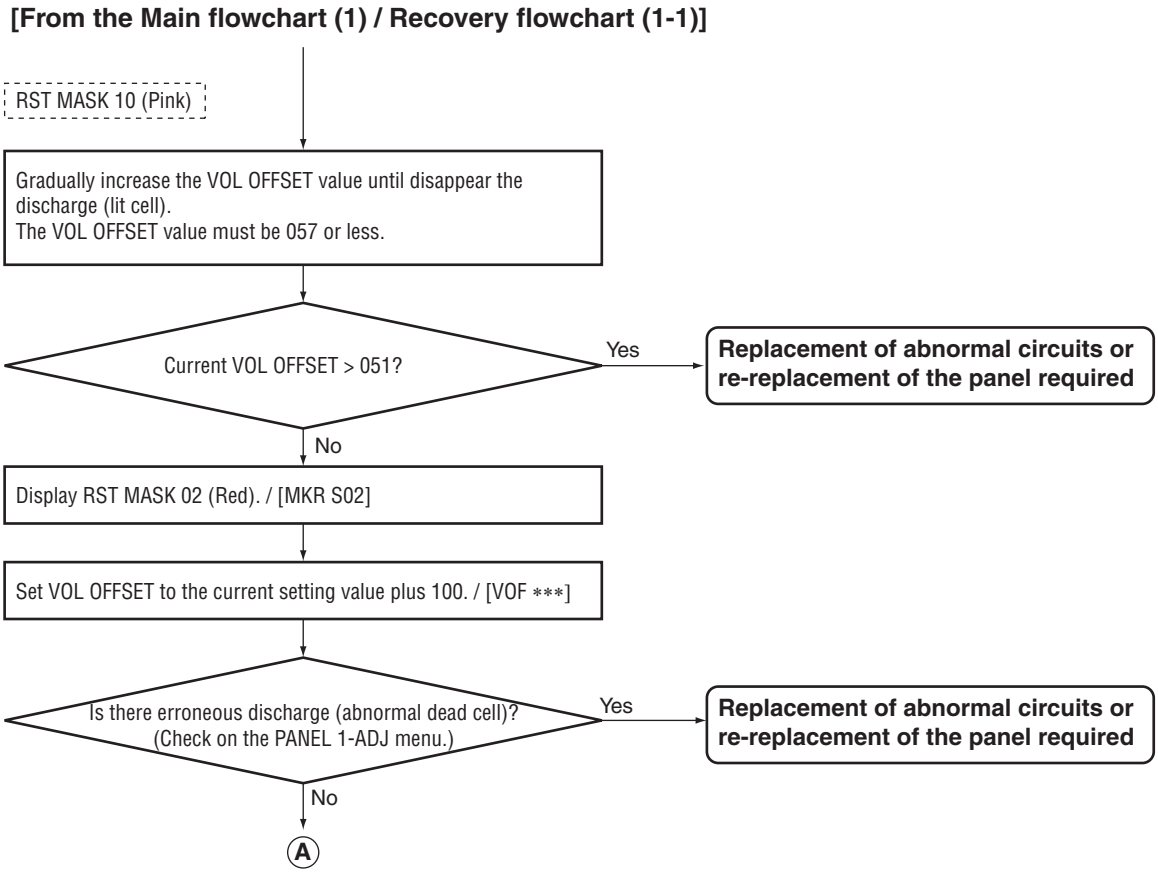
VOL SUS *1	VOL XPOSF2 *1
VOL OFFSET	VOL YNOFS1 D *1
VOL RST P *1	VOL YNOFS3 D *1
VOL XPOFS1 *1	VOL YNOFS4 D *1
	VOL YNOFS4 A

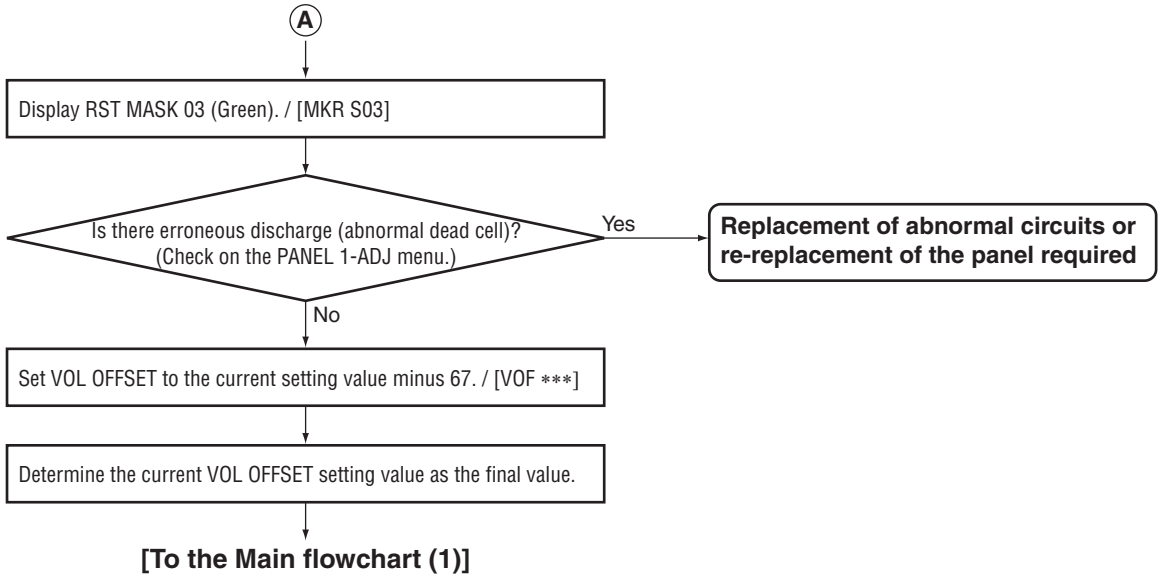
*1: The tentative setting value becomes the final value.

Recovery flowchart (1-1)...Changing the VOL OFFSET setting

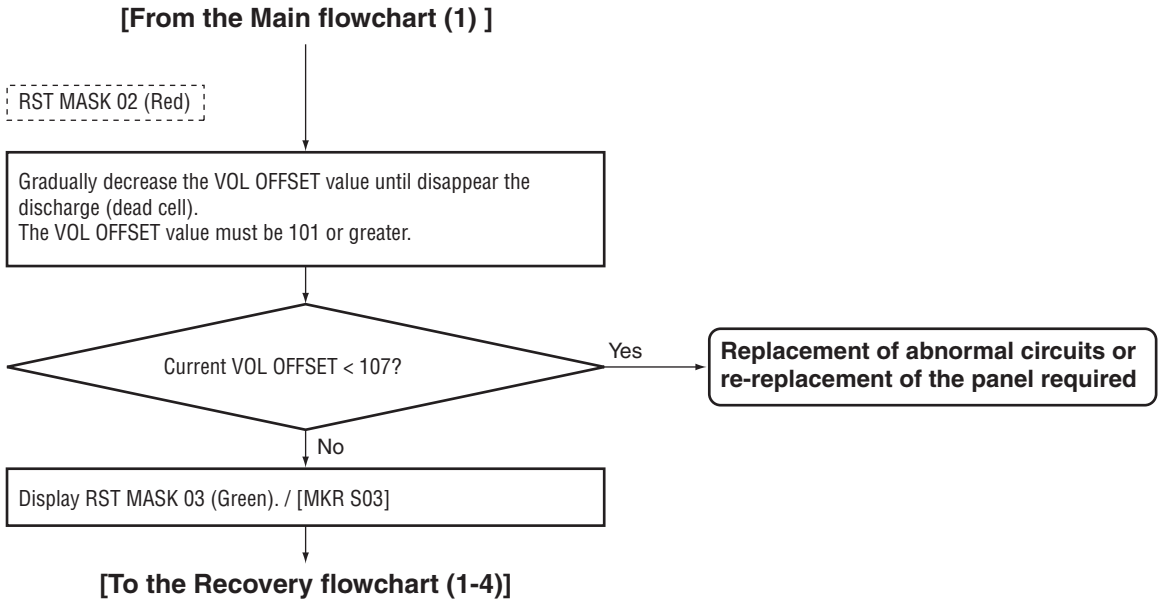


Recovery flowchart (1-2)...Changing the VOL OFFSET setting

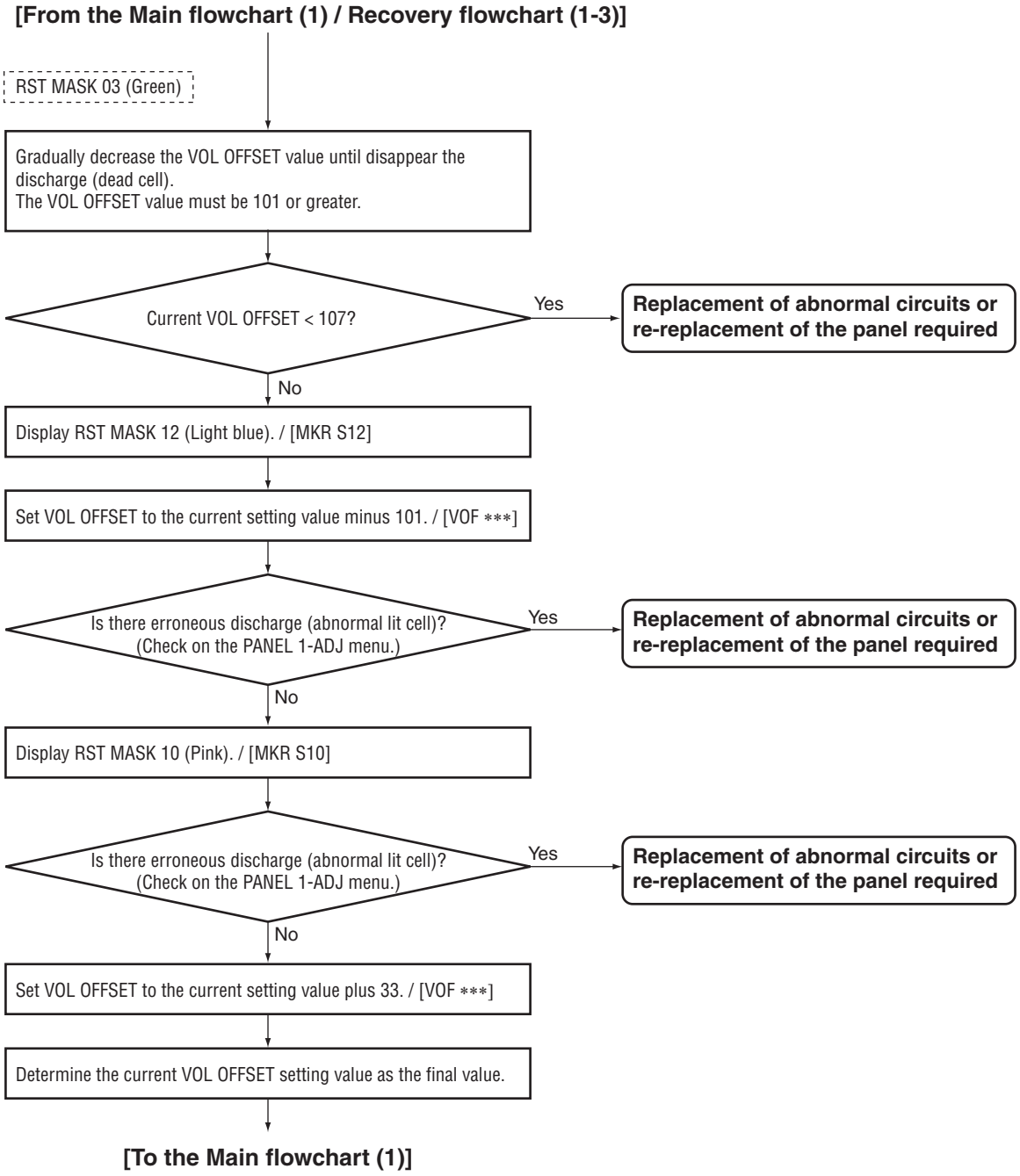




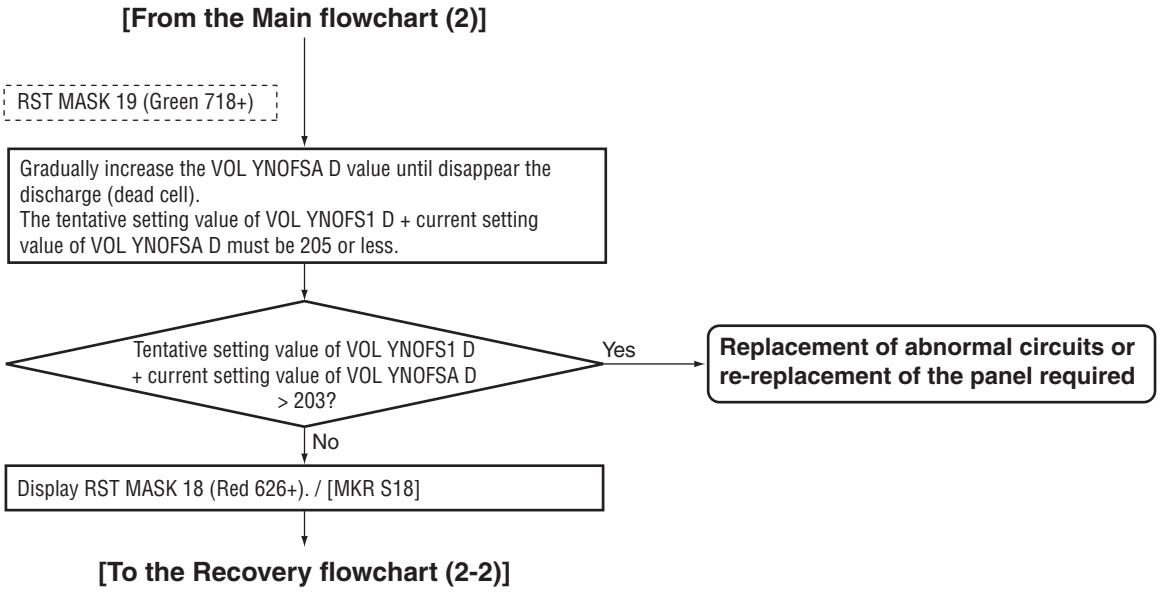
Recovery flowchart (1-3)...Changing the VOL OFFSET setting



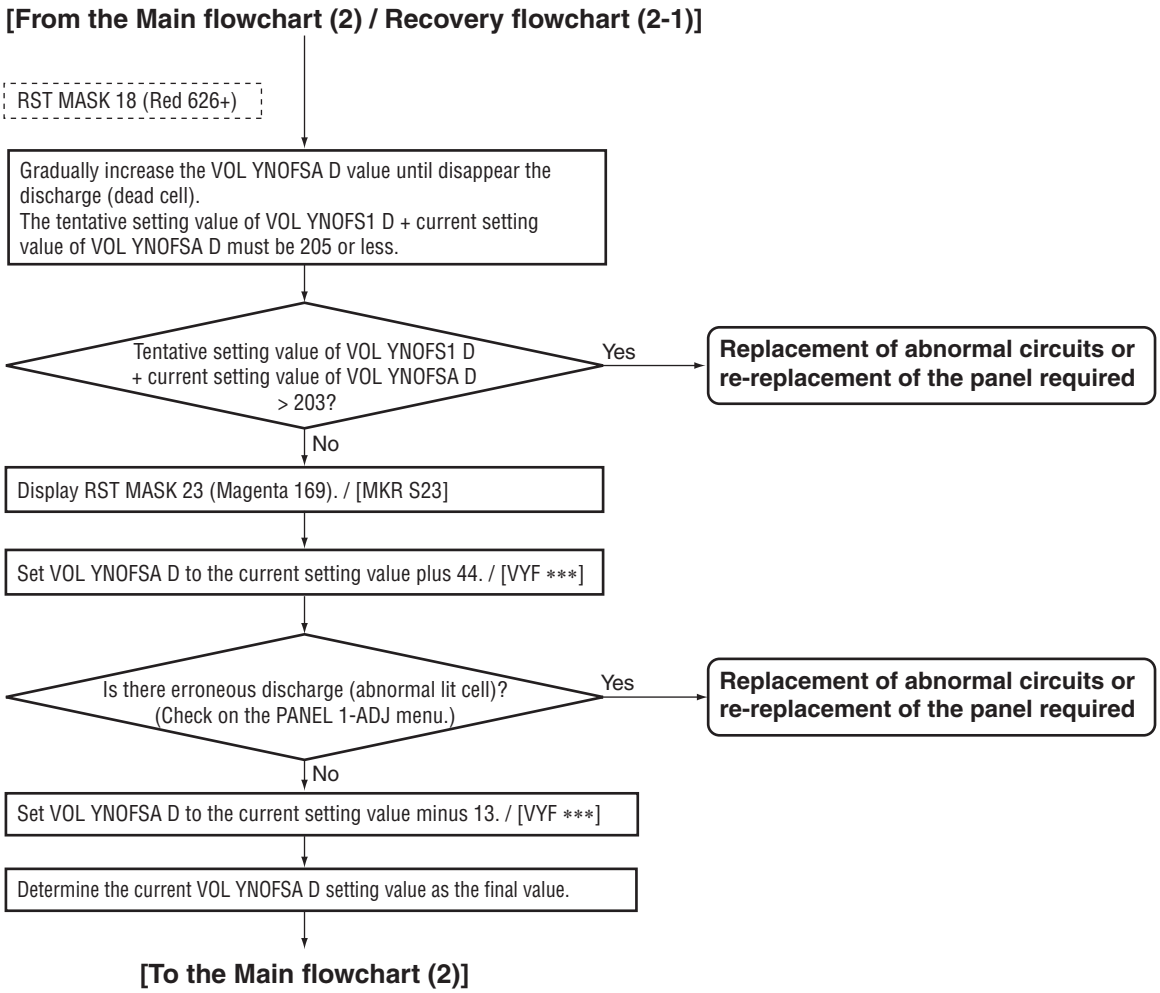
Recovery flowchart (1-4)...Changing the VOL OFFSET setting



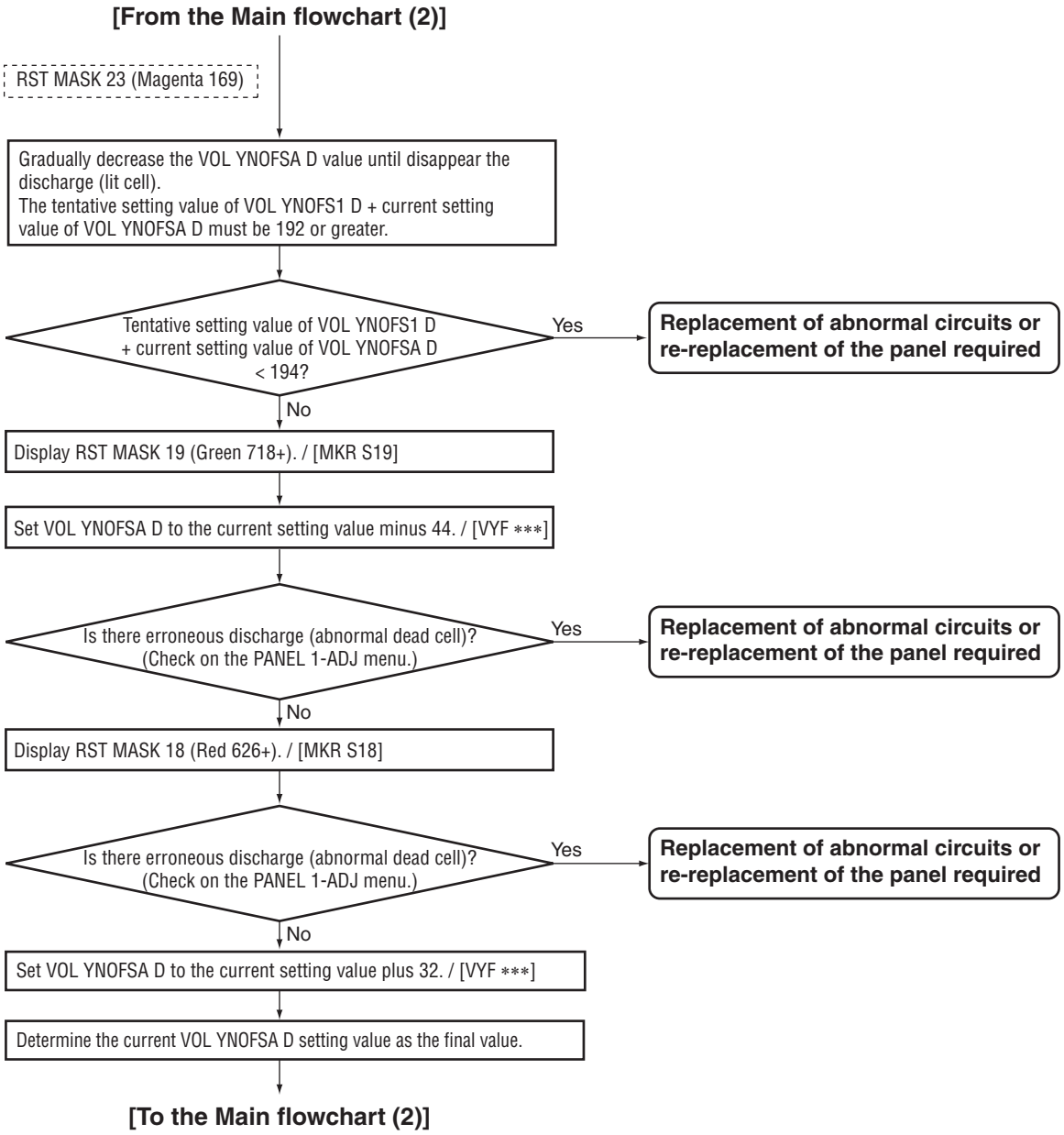
Recovery flowchart (2-1)...Changing the VOL YNOFSA D setting



Recovery flowchart (2-2)...Changing the VOL YNOFSA D setting



Recovery flowchart (2-3)...Changing the VOL YNOFSA D setting



8.5 ADJUSTMENT WHEN THE DRIVE ASSYS ARE REPLACED

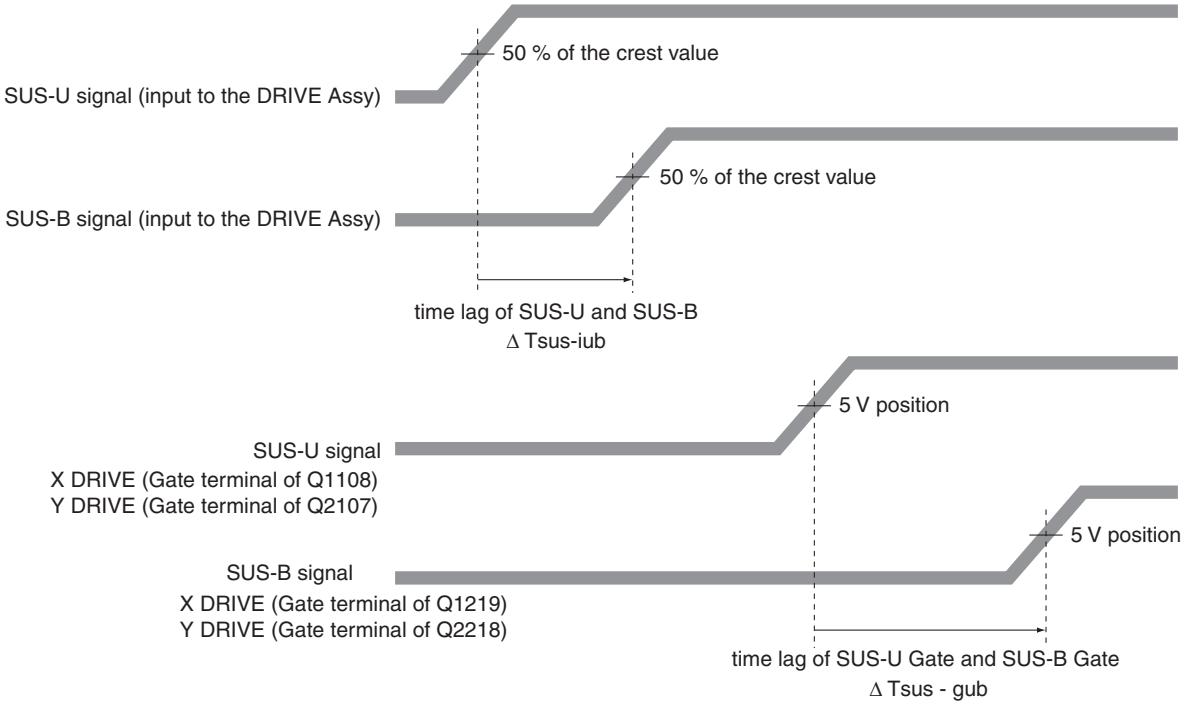
■ Waveform adjustments required when replacing the following parts of the X DRIVE and Y DRIVE Assys.

Assy Name	Ref No.	Part Name	Part Category	Remarks
X DRIVE Assy	IC1101	PS9818-1(P)	Photo Coupler	
	IC1104	TND307TD	FET Driver	
	IC1204	PS9818-2(P)	Photo Coupler	
	IC1209	TND307TD	FET Driver	
Y DRIVE Assy	IC2101	PS9818-1(P)	Photo Coupler	
	IC2103	TND307TD	FET Driver	
	IC2201	PS9818-1(P)	Photo Coupler	
	IC2203	TND307TD	FET Driver	

■ TIME LAG ADJUSTMENT OF THE CONTROL SIGNAL (SUS-B)

① Measure the time lag for the SUS-U signal to the SUS-B signal.
② Check the time lag for the SUS-B Gate signal to the SUS-U Gate siganl.
Adjust the variable control so that the time lag of Gate becomes " time lag of input signal + $\alpha \pm 5$ nsec."

Note: • Be sure to set the Drive to OFF for adjustment.
• For details on measuring points of waveform, see the figure below.



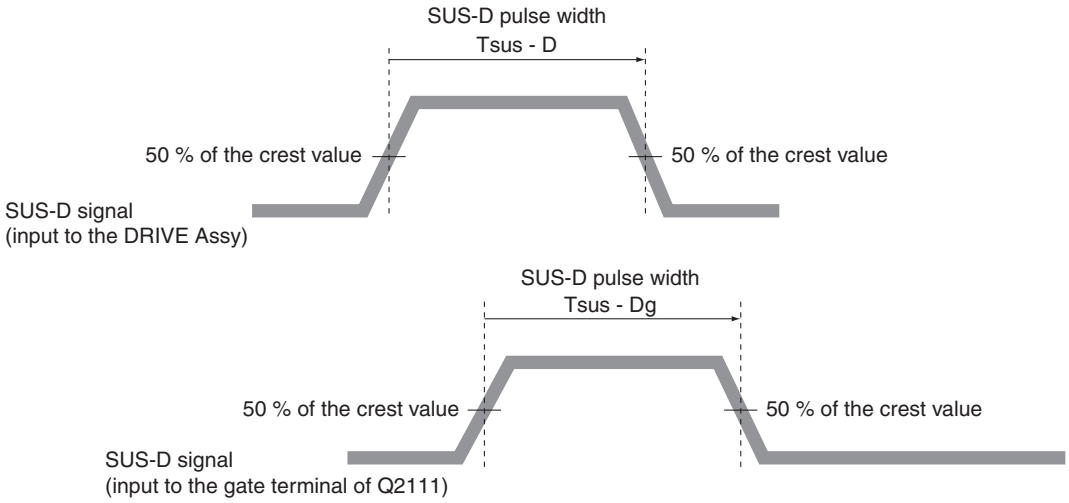
Time lag of SUS-U Gate and SUS-B Gate : Δ Tsus - gub
Adjust so that "Δ Tsus - gub = Δ Tsus - iub + $\alpha \pm 5$ nsec," using the variable controls shown in the table below:

Assy	VR	Value of α
X DRIVE Assy	VR1002	60 nsec
Y DRIVE Assy	VR2002	60 nsec

DELAY ADJUSTMENT OF THE CONTROL SIGNAL (SUS-D)

① Measure the pulse width of the SUS-D signal.
② Check the pulse width of the SUS-D input signal (gate terminal of Q2111).
Adjust the variable control so that the pulse width of the SUS-D input signal (gate terminal of Q2111) becomes the same pulse width ± 5 nsec as the SUS-D signal.

Note: • For details on measuring points of waveform, see the figure below.

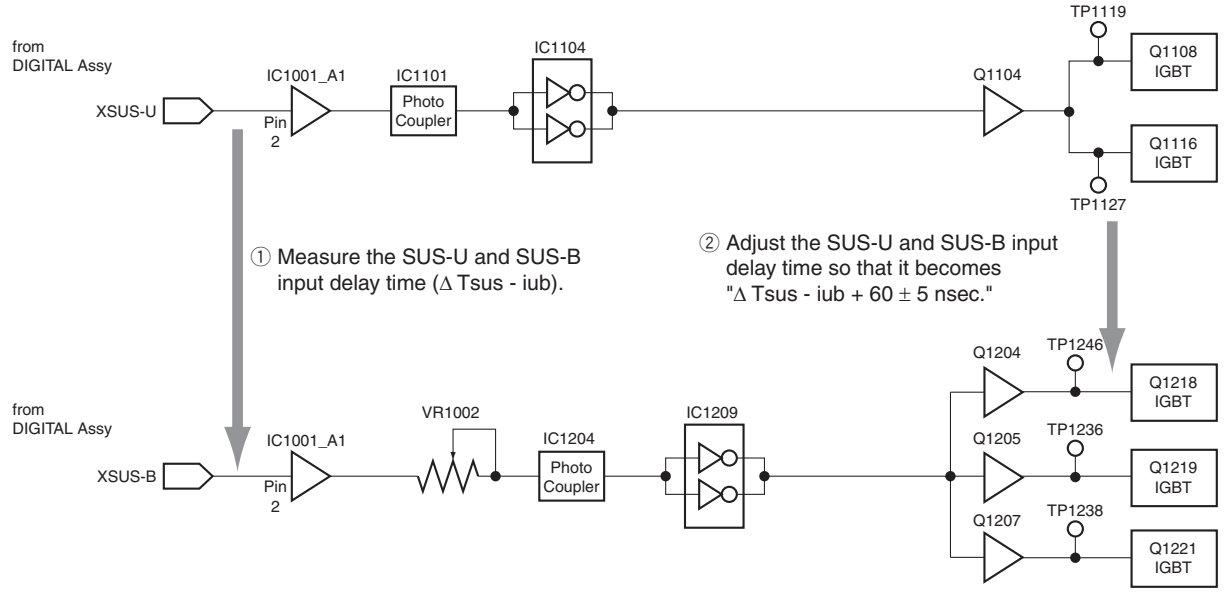


SUS-D pulse width: Tsus - Dg
Adjust so that "Tsus - Dg = Tsus - D ± 5 nsec," using the variable control shown in the table below:

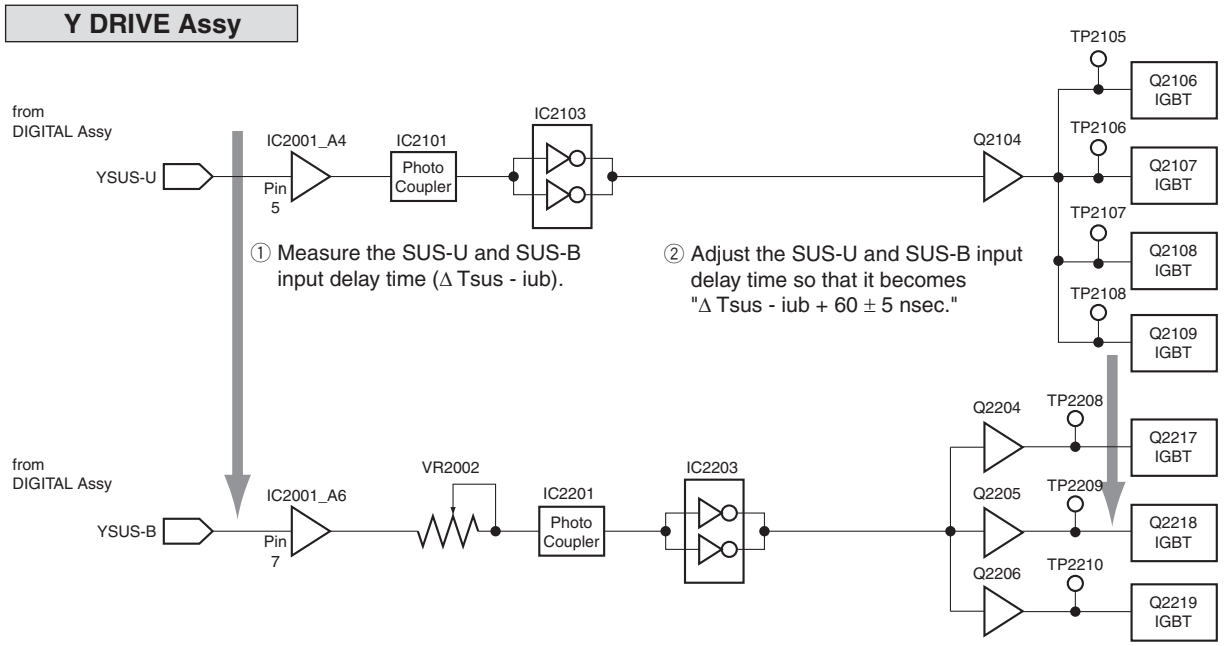
Assy	VR
Y DRIVE Assy	VR2001

■ SUS-B ADJUSTMENT

X DRIVE Assy

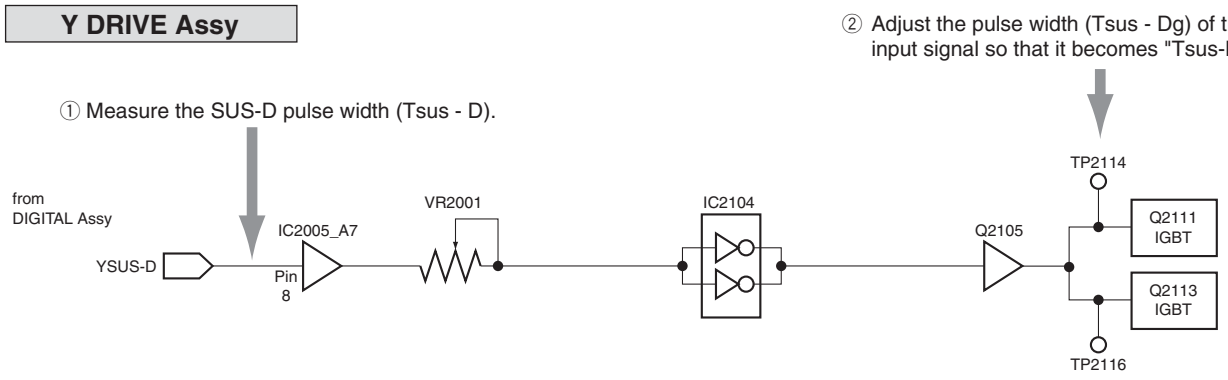


Y DRIVE Assy



■ SUS-D ADJUSTMENT

Y DRIVE Assy



8.6 HOW TO UPDATE FIRMWARE

Unzip "CpuRewtier8G_xxxxxx.zip".

(1) PDP is connected with PC with RS-232C straight cable.
(2) PDP is put into the state of the standby.
(3) Execute CpuRewriter.
(4) Select the [CPU definition] to write in from a list.

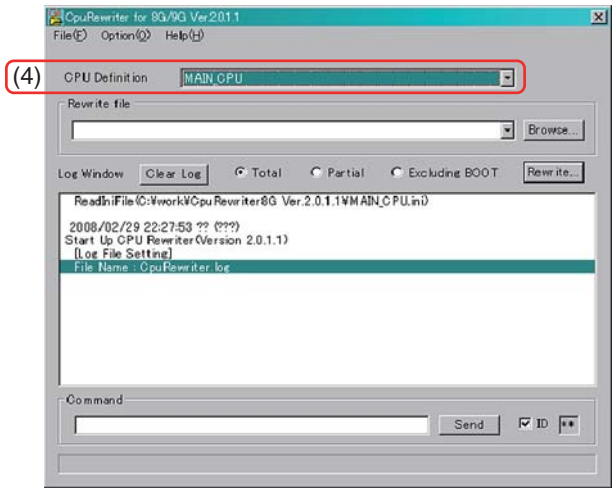


Fig. 1 Selection of CPU definition

(5) CPU definition that writes it is selected.
The following "Set dialog" is displayed when selecting it.
(6) CPU definition that writes it is selected.
A default setup is as in the following figures.
It unites with the environment of PC to be used about a "COM port."
If "Data Log" is checked, although detailed Log will be outputted during rewriting, rewriting time becomes late a little.
If "Forced Negotiation" is checked, the version down of writing software can be performed.
The Forced Negotiation setting for rewriting of programs on the MAIN and IP microcomputers is not available.
In the case of a standby state, "POF" should not check.
A push on "Return to default" inputs a default value into "a rewriting setup."

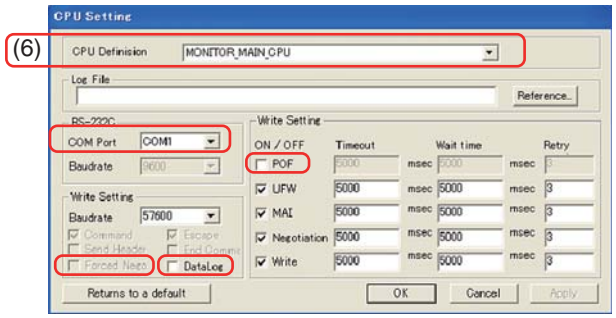


Fig. 2 Selection of CPU(MAIN)

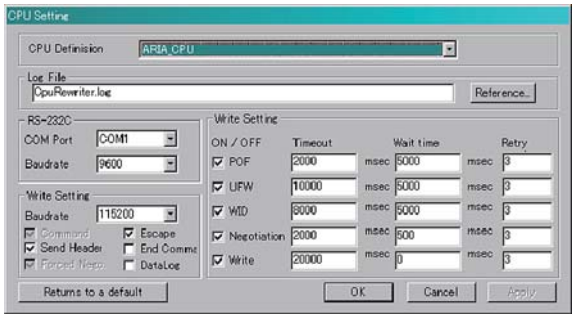


Fig. 3 Selection of CPU(ARIA)

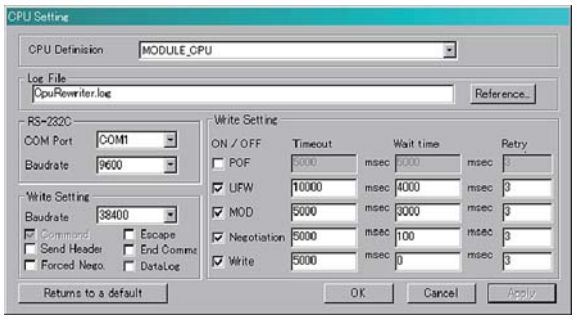


Fig. 4 Selection of CPU (MODULE)

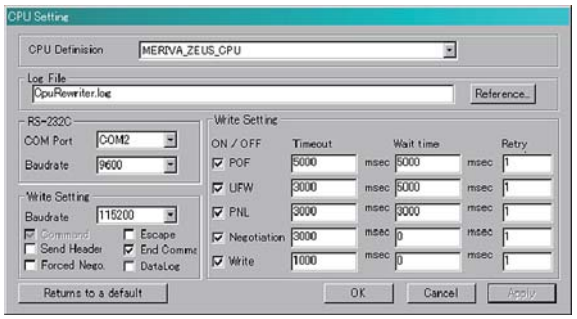


Fig. 5 Selection of CPU (MERIVA/ZEUS)

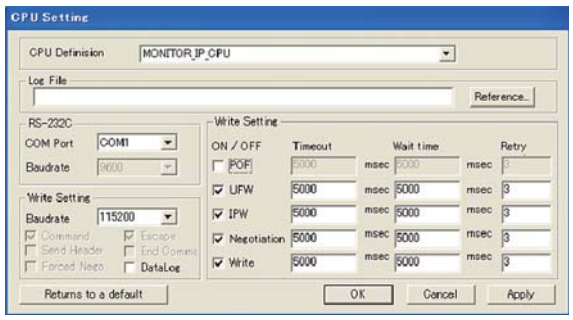


Fig. 6 Selection of CPU (IP)

(7) "CPU Setting dialog" is shut pushing the OK button.
(8) The file is selected pushing the [Browse...] button of the main screen.
(9) The mark of a check box is operated and the rewriting range is chosen.

Total: All programs including boot are rewritten.
Partial: Only the domain of the selected portion is rewritten.
Excluding BOOT: All the programs except boot are rewritten.

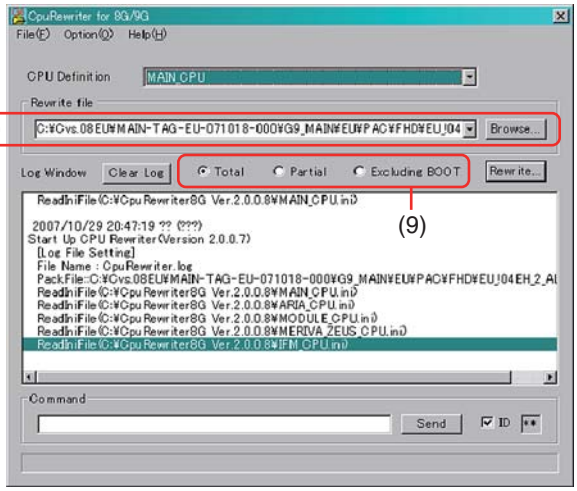


Fig. 7 Selection of file and selection of range

(10) Push Button "Rewrite".

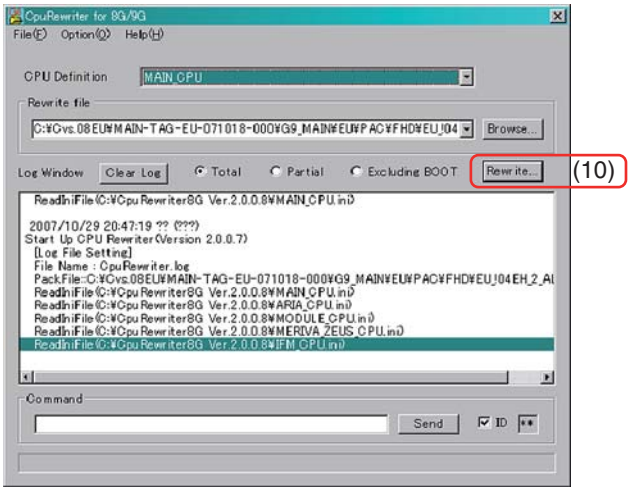


Fig. 8 Beginning of rewriting

(11) When the Rewrite button is pushed, the following confirmation dialogs are displayed.

Fig. 9 Rewriting confirmation dialog

(12) Writing is begun pushing the OK button.
The progress condition is displayed on the main screen.
Note: Please do not absolutely pull out the RS-232C cable until writing is completed and on/do not turn off the power supply after it begins to write it.
The set cannot be operated and there is a possibility of becoming it.
(13) If the dialog of the following ends is displayed, it is rewriting end.

Fig. 10 Rewriting completion dialog

(14) Please turn off the AC power supply of the set once, and reactivate after completing rewriting.
Note: When AC OFF? r eactivates, "AC ON" after about one second after the thing that LED disappeared is confirmed.
(15) The rewriting work is completed above.

<About localization>
CpuRewriter becomes an English display automatically, when it executes except Japanese OS.

A

B

C

D

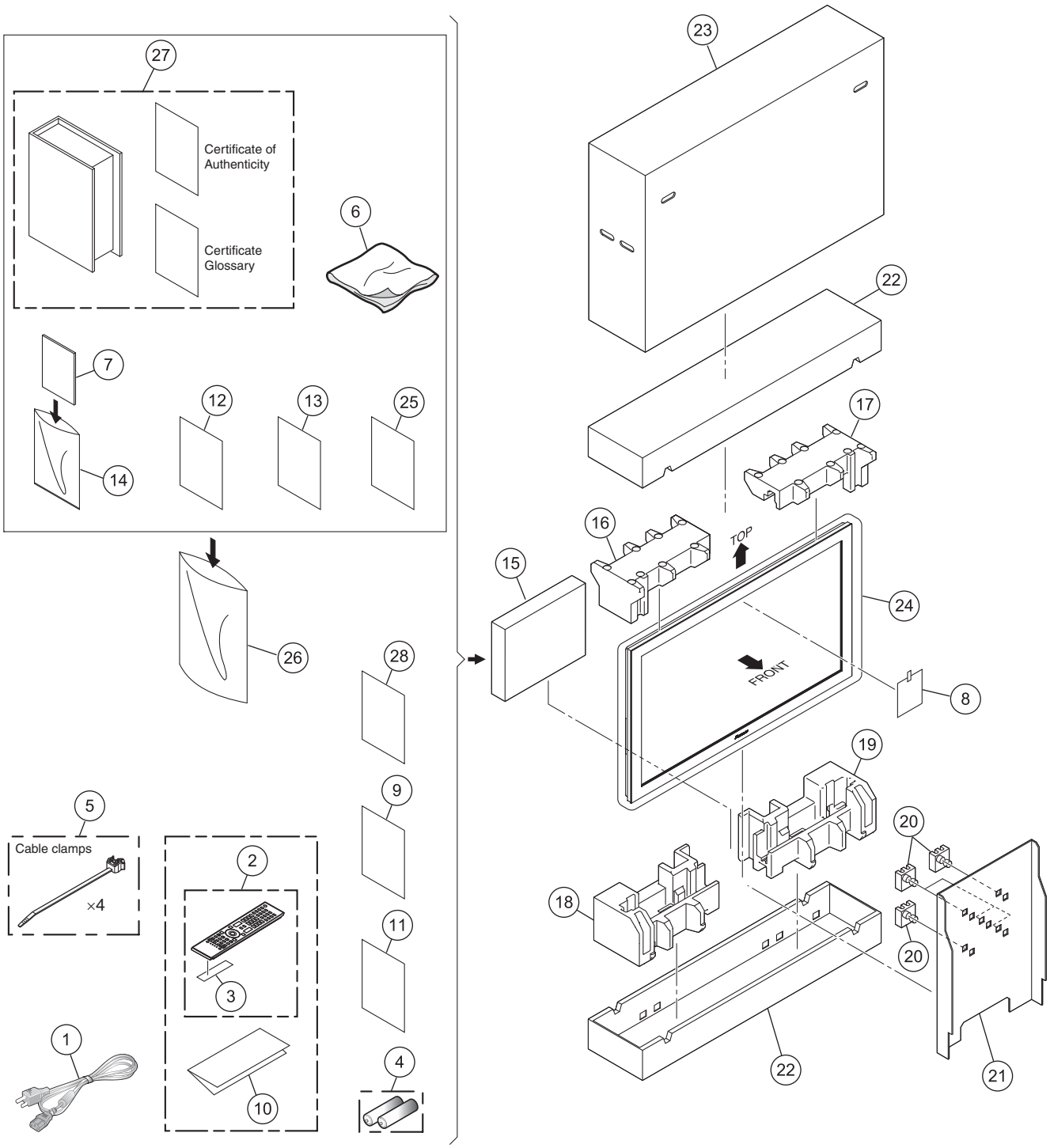
E

F

9. EXPLODED VIEWS AND PARTS LIST

NOTES:
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Screws adjacent to ▼ mark on product are used for disassembly.*
- *For the applying amount of lubricants or glue, follow the instructions in this manual. (In the case of no amount instructions, apply as you think it appropriate.)*

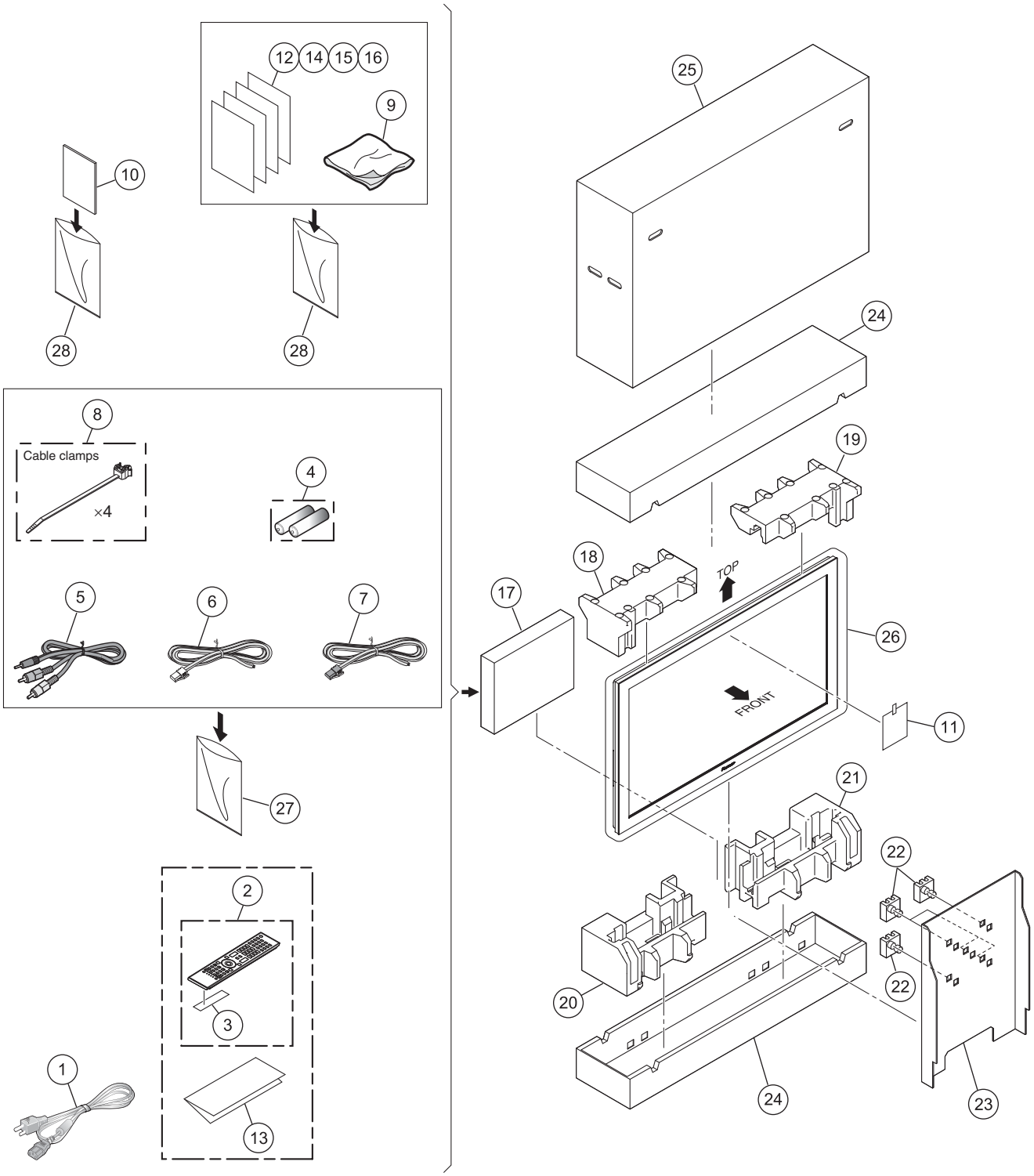
9.1 PACKING SECTION (PRO-141FD/KU/CBXC)



PACKING SECTION PARTS LIST (PRO-141FD/KU/CBXC)

Mark	No.	Description	Part No.
⚠	1	Power Cord (2 m/6.6 feet)	ADG1215
	2	Remote Control	AXD1570
	3	Battery Cover (Black)	AZN2783
NSP	4	Alkaline Dry Cell Battery (LR6, AA)	VEM1023
	5	Binder Assy	AEC2158
	6	Cleaning Cloth	AED1285
	7	Operating Instructions (English)	ARB1581
	8	Caution Card	ARM1239
	9	Cleaning Caution (U)	ARM1303
	10	Power Button Caution	ARM1390
	11	Digital TV Trans Inf	ARM1401
NSP	12	Warranty Card EL	ARY1123
NSP	13	Card (Register)	ARY1215
	14	Polyethylene Bag	AHG1394
	15	Accessory Box	AHC1125
	16	Pad (6095U T-L)	AHA2743
	17	Pad (6095U T-R)	AHA2744
	18	Pad (6095U B-L)	AHA2745
	19	Pad (6095U B-R)	AHA2746
	20	Center Pad	AHA2695
	21	Reinforce Carton (6095U)	AHC1120
	22	Under Carton (6095U)	AHD3689
	23	Upper Carton (141FD)	AHD3688
	24	Mirror Mat	AHG1385
	25	Specifications Sheet	ARM1406
	26	Polyethylene Bag	AHG1418
NSP	27	Owners Case Assy	AHC1131
NSP	28	UL Information	ARM1426

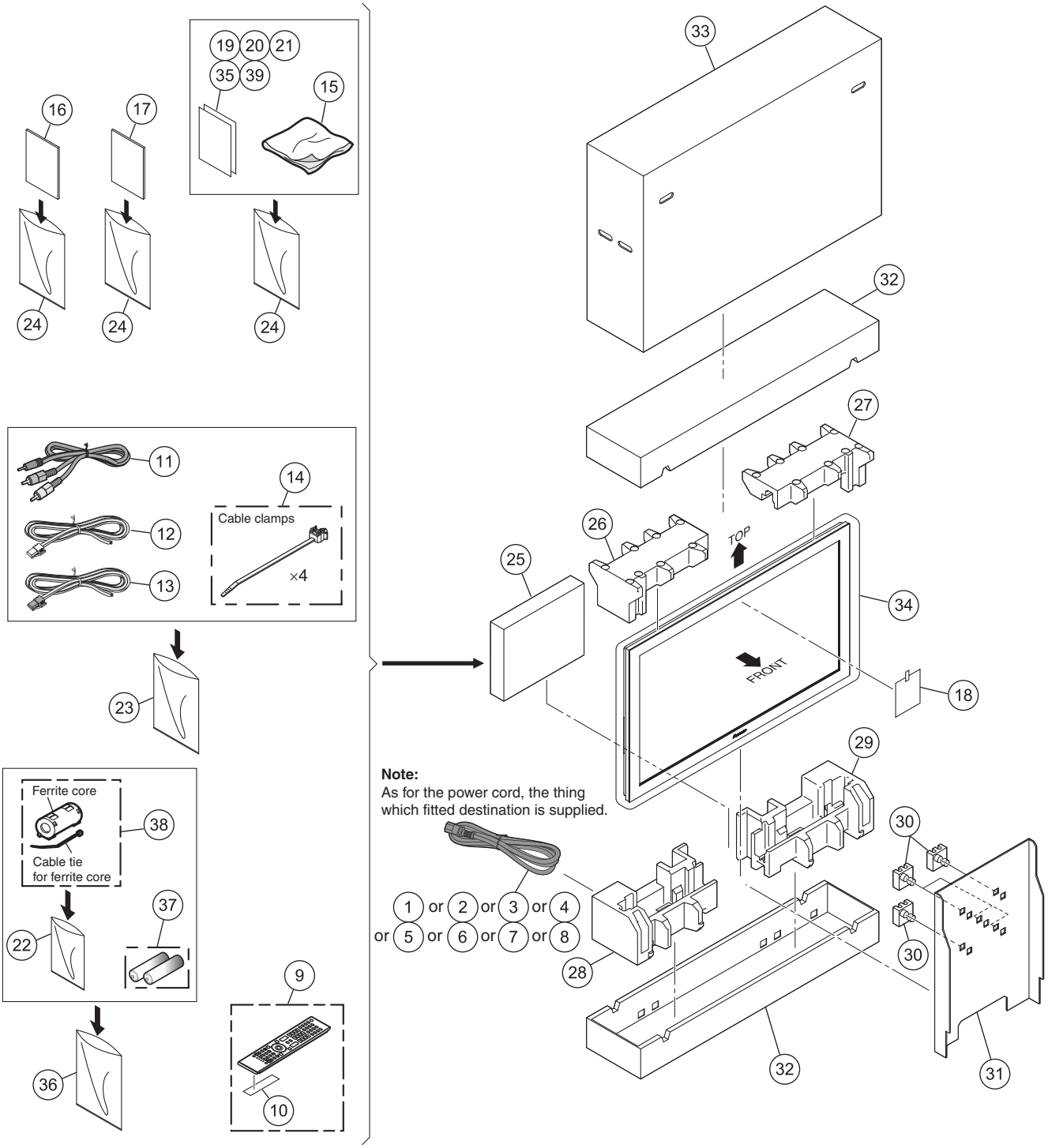
9.2 PACKING SECTION (KRP-600M/KUCXC)



PACKING SECTION PARTS LIST (KRP-600M/KUCXC)

Mark	No.	Description	Part No.
⚠	1	Power Cord (2 m/6.6 feet)	ADG1215
	2	Remote Control	AXD1570
	3	Battery Cover (Black)	AZN2783
NSP	4	Alkaline Dry Cell Battery (LR6, AA)	VEM1023
	5	Stereo Sound Cable with a Mini Plug	ADF1040
	6	Speaker Cable (L)	ADF1038
	7	Speaker Cable (R)	ADF1039
	8	Binder Assy	AEC2158
	9	Cleaning Cloth	AED1285
	10	Operating Instructions (English / French)	ARE1500
	11	Caution Card	ARM1239
	12	Cleaning Caution (U)	ARM1303
	13	Power Button Caution	ARM1390
	14	Digital TV Trans Inf	ARM1401
NSP	15	Warranty Card KUC	ARY1196
NSP	16	Card (Register)	ARY1215
	17	Accessory Box	AHC1091
	18	Pad (6095U T-L)	AHA2743
	19	Pad (6095U T-R)	AHA2744
	20	Pad (6095U B-L)	AHA2745
	21	Pad (6095U B-R)	AHA2746
	22	Center Pad	AHA2695
	23	Reinforce Carton (6095U)	AHC1120
	24	Under Carton (6095U)	AHD3689
	25	Upper Carton (60M-U)	AHD3738
	26	Mirror Mat	AHG1385
	27	Vinyl Bag S	AHG1348
	28	Polyethylene Bag	AHG1394

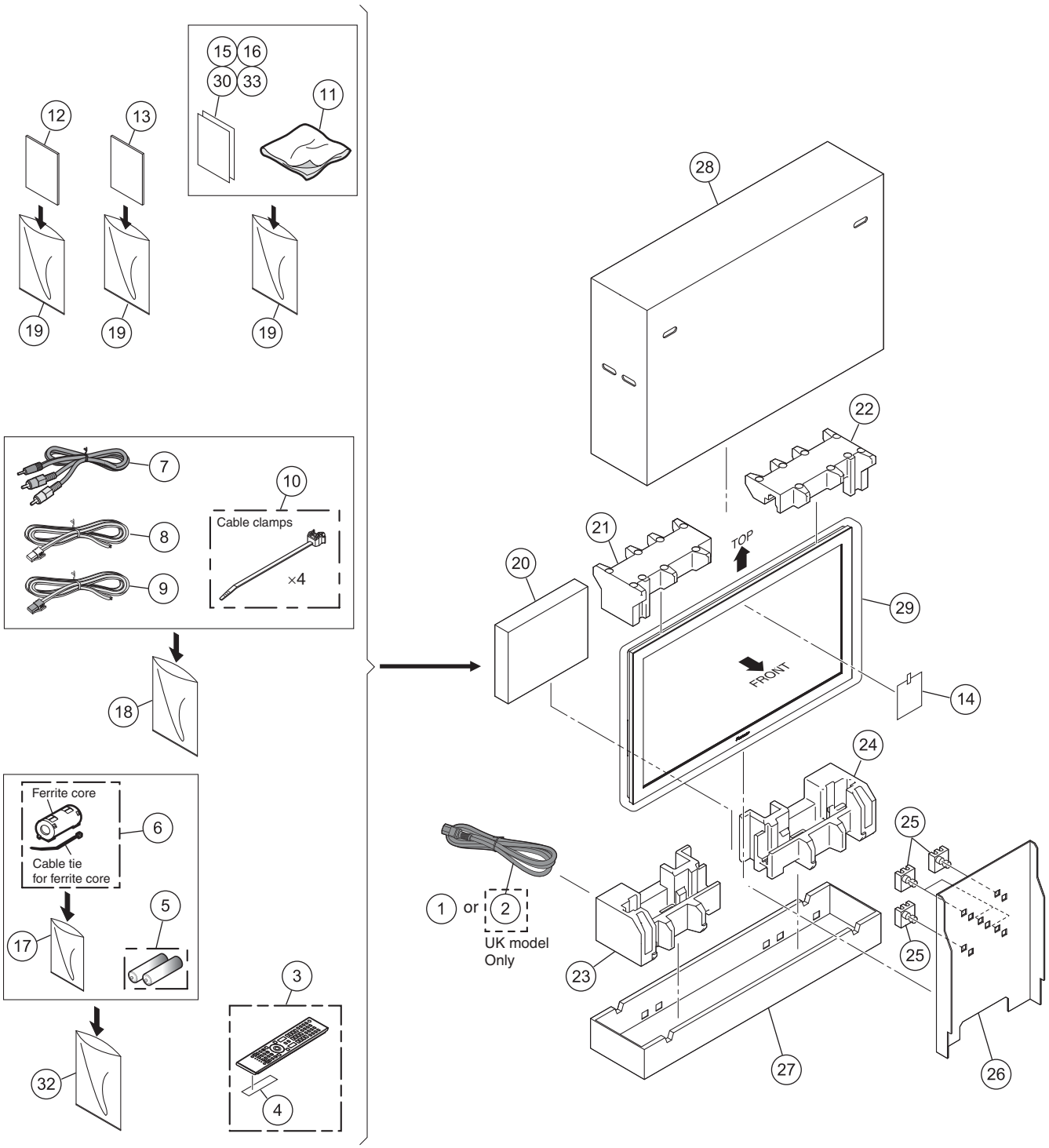
9.3 PACKING SECTION (KRP-600M/YVPSLFTD)



PACKING SECTION PARTS LIST (KRP-600M/YVPSLFTD)

Mark	No.	Description	Part No.
⚠ NSP	1	Power Cord	ADG1232
⚠ NSP	2	Power Cord	ADG1239
⚠ NSP	3	Power Cord	ADG1243
⚠ NSP	4	Power Cord	ADG1251
⚠	5	Power Cord	ADG1214
⚠	6	Power Cord	ADG1223
⚠ NSP	7	Power Cord	ADG1244
⚠ NSP	8	Power Cord Assy	AWX1095
	9	Remote Control	AXD1570
	10	Battery Cover (Black)	AZN2783
	11	Stereo Sound Cable with a Mini Plug	ADF1040
	12	Speaker Cable (L)	ADF1038
	13	Speaker Cable (R)	ADF1039
	14	Binder Assy	AEC2158
	15	Cleaning Cloth	AED1285
	16	Operating Instructions (Italian / Dutch / Spanish / Russian)	ARC1612
	17	Operating Instructions (English / French / German)	ARE1498
	18	Caution Card	ARM1232
	19	Cleaning Caution (11L)	ARM1283
NSP	20	Warranty Card EU	ARY7127
NSP	21	Warranty Card (AUS)	ARY1192
	22	Vinyl Bag	AHG1337
	23	Vinyl Bag S	AHG1338
NSP	24	Vinyl Bag	AHG1340
	25	Accessory Box	AHC1083
	26	Pad (6095 T-L)	AHA2752
	27	Pad (6095 T-R)	AHA2753
	28	Pad (6095 B-L)	AHA2754
	29	Pad (6095 B-R)	AHA2755
	30	Center Pad	AHA2687
	31	Reinforce Carton (6095)	AHC1123
	32	Under Carton (6095)	AHD3693
	33	Upper Carton (EX609)	AHD3692
	34	Mirror Mat	AHG1385
	35	Specifications Sheet	ARM1409
NSP	36	Vinyl Pouch	AHG-195
NSP	37	Alkaline Dry Cell Battery (LR6, AA)	VEM1047
⚠	38	Ferrite Core	ATX1039
	39	EU Battery Caution	ARM7119

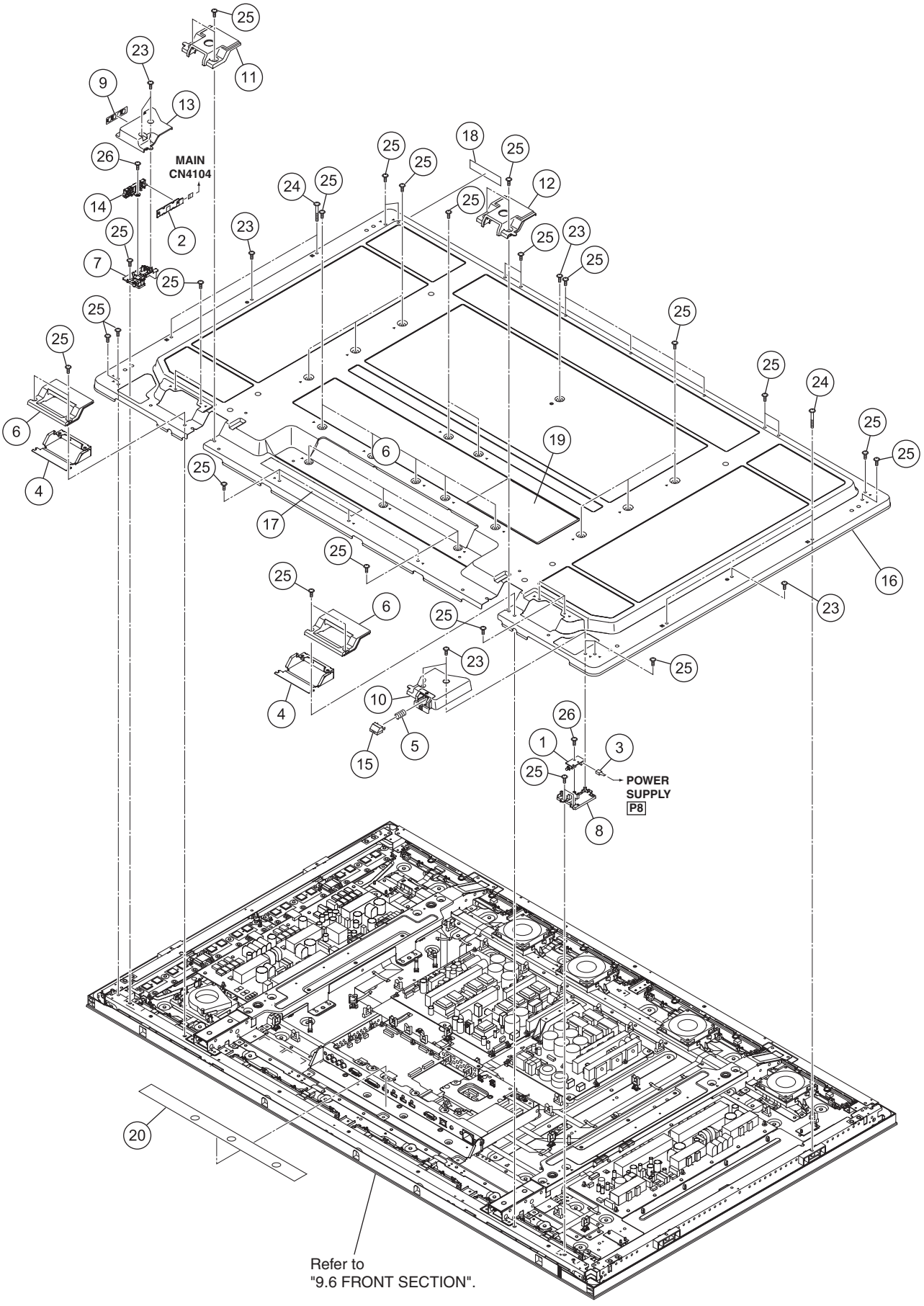
9.4 PACKING SECTION (KRP-600M/TYVXK5)



PACKING SECTION PARTS LIST (KRP-600M/TYVXK5)

Mark	No.	Description	Part No.
⚠	1	Power Cord	ADG1214
⚠	2	Power Cord	ADG1223
	3	Remote Control	AXD1570
	4	Battery Cover (Black)	AZN2783
NSP	5	Alkaline Dry Cell Battery (LR6, AA)	VEM1045
⚠	6	Ferrite Core	ATX1039
	7	Stereo Sound Cable with a Mini Plug	ADF1040
	8	Speaker Cable (L)	ADF1038
	9	Speaker Cable (R)	ADF1039
	10	Binder Assy	AEC2158
	11	Cleaning Cloth	AED1285
	12	Operating Instructions (Italian / Dutch / Spanish / Russian)	ARC1611
	13	Operating Instructions (English / French / German)	ARE1497
	14	Caution Card	ARM1310
	15	Cleaning Caution PTK	ARM1311
NSP	16	Warranty Card EU	ARY7129
	17	Vinyl Bag	AHG1337
	18	Vinyl Bag S	AHG1338
NSP	19	Vinyl Bag	AHG1340
	20	Accessory Box	AHC1122
	21	Pad (6095E T-L)	AHA2747
	22	Pad (6095E T-R)	AHA2748
	23	Pad (6095E B-L)	AHA2749
	24	Pad (6095E B-R)	AHA2750
	25	Pad (6095E C)	AHA2751
	26	Reinforce Carton (6095E)	AHC1121
	27	Under Carton (6095E)	AHD3691
	28	Upper Carton (EX609)	AHD3690
	29	Mirror Mat	AHG1385
	30	Specifications Sheet	ARM1408
	31	•••••	
NSP	32	Vinyl Pouch	AHG-195
	33	EU Battery Caution	ARM7121

9.5 REAR SECTION



REAR SECTION PARTS LIST

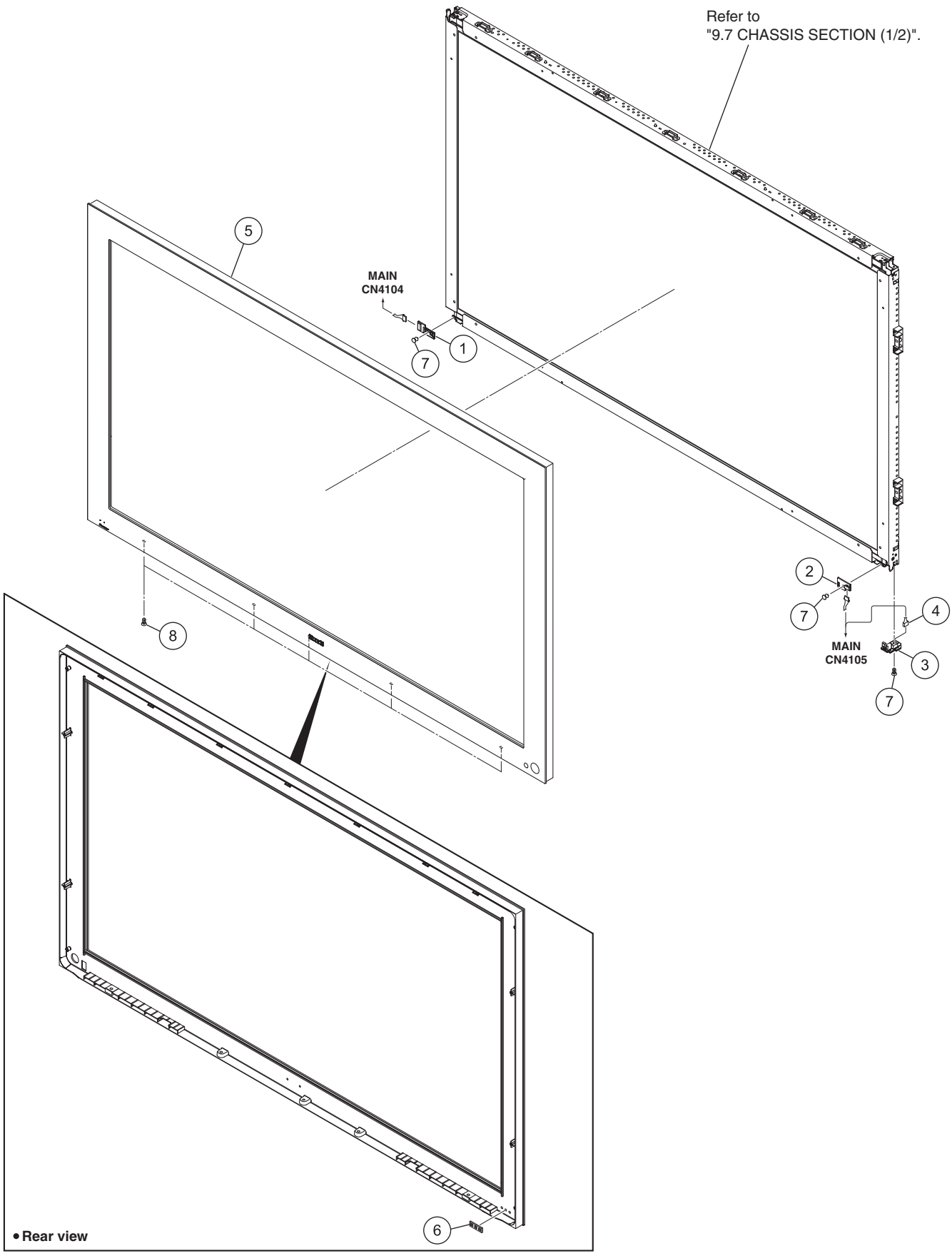
Mark	No.	Description	Part No.
	1	POW SW Assy	AWW1381
	2	KEY Assy	AWW1382
	3	3P Housing Wire (J103)	ADX3655
	4	Under Grip Shield	ANG3169
	5	Coil Spring	ABH1125
	6	Under Grip	AMR3811
	7	Operation Button Holder	AMR3815
	8	Power Button Support	AMR3878
	9	Operation Button Label	See Contrast table (2)
	10	Power Button Case	AAK2938
	11	Stand Cover (L)	AMR3876
	12	Stand Cover (R)	AMR3804
	13	Operation Button Cover	AMR3814
	14	Operation Button	AAC1570
	15	Power Button (508F)	AAD4152
⚠	16	Rear Case Assy (60M)	ANE1677
NSP	17	Name Label	See Contrast table (2)
NSP	18	Serial Seal	See Contrast table (2)
	19	Caution Label	See Contrast table (2)
	20	Terminal Label	See Contrast table (2)
	21	•••••	
	22	•••••	
	23	Screw (3 x 8 P)	ABA1379
	24	Screw (3 x 25 P)	ABA1380
	25	N Grip Screw (M3 x 6)	ABA1381
	26	Screw	APZ30P080FTB

(2) CONTRAST TABLE

PRO-141FD/KU/CBXC, KRP-600M/KUCXC, YVPSLFTD and TYVXK5 are constructed the same except for the following:

Mark	No.	Symbol and Description	PRO-141FD /KU/CBXC	KRP-600M /KUCXC	KRP-600M /YVPSLFTD	KRP-600M /TYVXK5
	9	Operation Button Label (E)	AAK2955	Not used	Not used	Not used
	9	Operation Button Label (R)	Not used	AAK2956	AAK2956	AAK2956
NSP	17	Name Label (60M-EL)	AAL3051	Not used	Not used	Not used
NSP	17	Name Label (60M-EUJ)	Not used	Not used	AAL3052	Not used
NSP	17	Name Label (60M-EU)	Not used	Not used	Not used	AAL3053
NSP	17	Name Label (60M-U)	Not used	AAL3079	Not used	Not used
NSP	18	Serial Seal	AAX3182	Not used	Not used	Not used
	18	Serial Sheet	Not used	AAX3143	AAX3143	AAX3143
	19	Caution Label (60M)	AAX3590	Not used	Not used	Not used
	19	Caution Label 60M-EU	Not used	AAX3592	AAX3592	AAX3592
	20	Terminal Label 60M-EL	AAX3591	Not used	Not used	Not used
	20	Terminal Label 60M-EU	Not used	AAX3594	AAX3594	AAX3594

9.6 FRONT SECTION



FRONT SECTION PARTS LIST

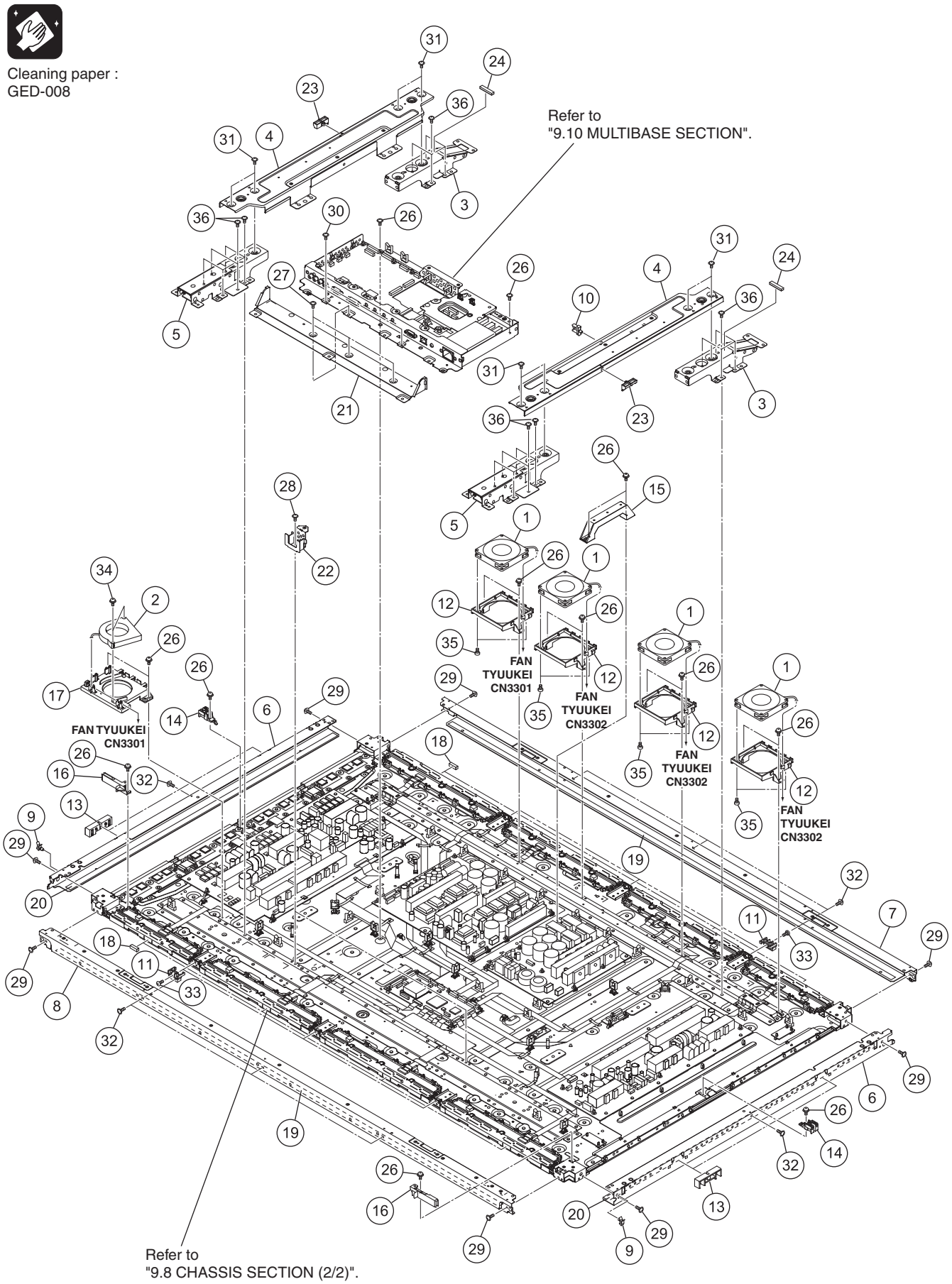
Mark	No.	Description	Part No.
	1	LED Assy	AWW1374
	2	RLS Assy	AWW1378
	3	IR Assy	AWW1380
	4	6/3/3P Housing Wire (J117)	ADX3663
	5	Front Bezel	See Contrast table (2)
	6	Blind Cushion (508F)	AEB1479
	7	Nylon Rivet	AEC1671
	8	Rivet (Plastic)	AEC1877

(2) CONTRAST TABLE

PRO-141FD/KU/CBXC, KRP-600M/KUCXC, YVPSLFTD and TYVXK5 are constructed the same except for the following:

Mark	No.	Symbol and Description	PRO-141FD /KU/CBXC	KRP-600M /KUCXC	KRP-600M /YVPSLFTD	KRP-600M /TYVXK5
	5	Front Bezel (60MELT)	AMB3080	Not used	Not used	Not used
	5	Front Bezel (600M)	Not used	AMB3095	AMB3095	AMB3095

9.7 CHASSIS SECTION (1/2)



CHASSIS SECTION (1/2) PARTS LIST

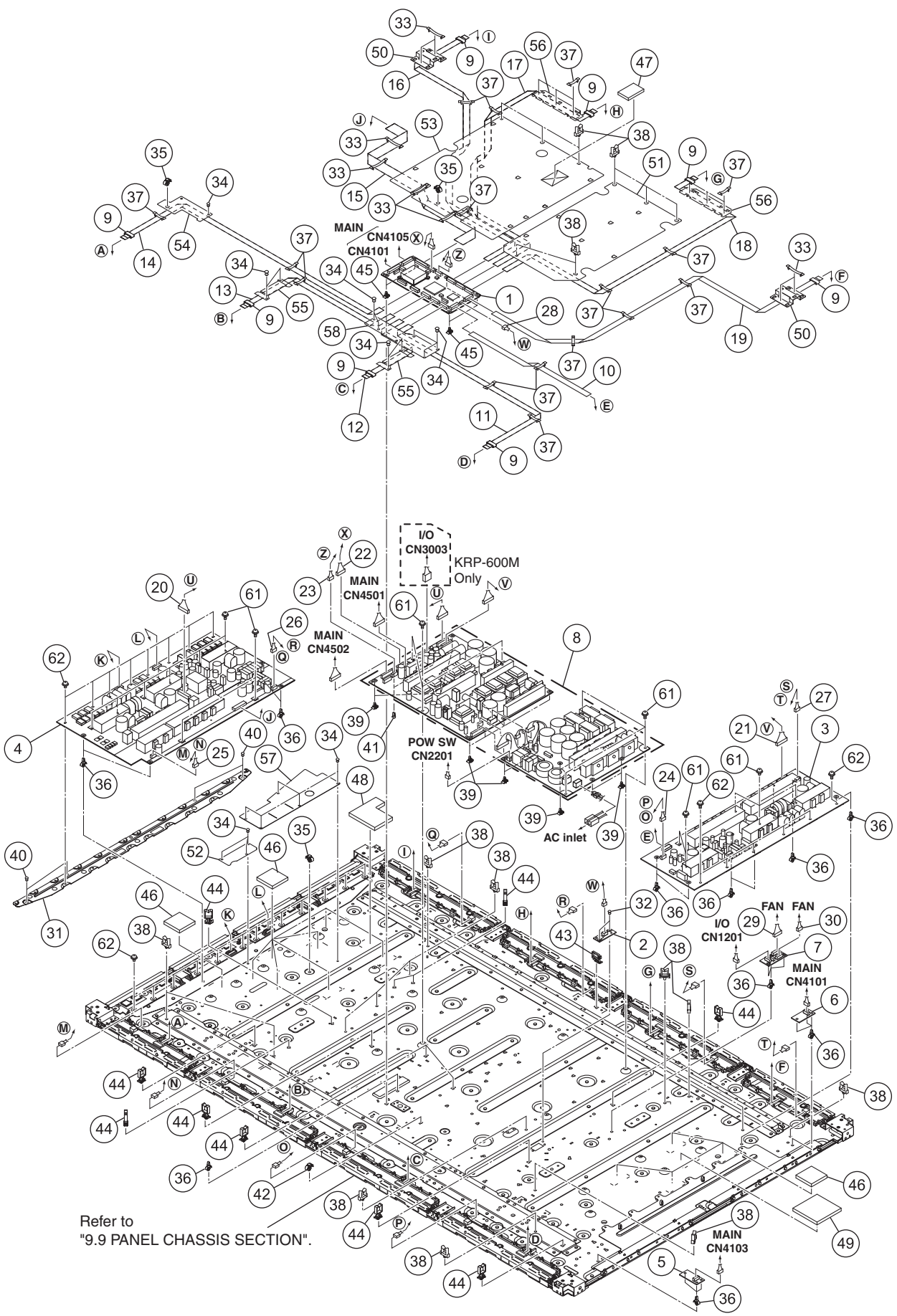
Mark	No.	Description	Part No.
⚠	1	DC FAN Motor 80 x 15L	AXM1065
⚠	2	DC FAN Motor 75 x 12T	AXM1066
	3	Top Frame (60M)	ANG3166
	4	Center Frame (60M)	ANG3165
	5	Sub Frame Assy (60M)	ANA2162
⚠	6	F. Chassis V Assy (60M)	ANA2163
⚠	7	F. Chassis HT Assy 60M	ANA2167
⚠	8	F. Chassis HB (60M)	ANA2166
	9	Wire Clip	AEC1948
	10	Reuse Wire Saddle	AEC2134
	11	F. Chassis H Guide	AMR3756
	12	FAN Bracket	AMR3805
	13	Front Bezel Support	AMR3806
	14	Support Bracket V	AMR3807
	15	Rear Case Support	AMR3808
	16	Coner Spacer	AMR3818
	17	FAN Bracket Y	AMR3885
⚠	18	Address Gasket	ANK1947
⚠	19	Front Gasket H	ANK1960
⚠	20	Front Gasket V	ANK1961
	21	Under Cover	ANG3168
	22	Under Cover Bracket	ANG3195
	23	Drive Wire Saddle	AMR3850
	24	Cushion	AEB1503
	25	•••••	
	26	Screw	See Contrast table (2)
	27	N Grip Screw (M3 x 6)	ABA1381
	28	Screw	ABZ30P060FTB
	29	Screw	ABZ30P080FTC
	30	Screw	AMZ30P060FTB
	31	Screw	AMZ40P080FTB
	32	Screw	APZ30P080FTB
	33	Screw	BMZ30P080FTB
	34	Screw	BPZ30P080FTB
	35	Screw	PPZ50P100FTB
	36	Screw	TBZ40P060FTC

(2) CONTRAST TABLE

PRO-141FD/KU/CBXC, KRP-600M/KUCXC, YVPSLFTD and TYVXK5 are constructed the same except for the following:

Mark	No.	Symbol and Description	PRO-141FD /KU/CBXC	KRP-600M /KUCXC	KRP-600M /YVPSLFTD	KRP-600M /TYVXK5
	26	Screw	ABA1313	ABA1351	ABA1351	ABA1351

9.8 CHASSIS SECTION (2/2)



CHASSIS SECTION (2/2) PARTS LIST

Mark	No.	Description	Part No.
	1	60F DIGITAL Assy	AWW1339
	2	SENSOR Assy	AWW1340
	3	60F X DRIVE Assy	AWV2597
	4	60F Y DRIVE Assy	AWV2598
	5	SENB Assy	AWW1375
	6	SENC Assy	AWW1376
	7	FAN TYUUKEI Assy	AWW1391
⚠	8	POWER SUPPLY Unit	AXY1201
⚠	9	Ferrite Core (F1 - F8)	ATX1072
	10	Flexible Cable (J201)	ADD1550
	11	Flexible Cable (J202)	ADD1551
	12	Flexible Cable (J203)	ADD1552
	13	Flexible Cable (J204)	ADD1553
	14	Flexible Cable (J205)	ADD1554
	15	Flexible Cable (J206)	ADD1555
	16	Flexible Cable (J207)	ADD1556
	17	Flexible Cable (J208)	ADD1557
	18	Flexible Cable (J209)	ADD1558
	19	Flexible Cable (J210)	ADD1559
	20	12P/11P Housing Wire (J101)	ADX3649
	21	11P Housing Wire (J102)	ADX3650
	22	10P Housing Wire (J106)	ADX3652
	23	6P Housing Wire (J107)	ADX3656
	24	5/3/3P Housing Wire (J112)	ADX3658
	25	5/3/3P Housing Wire (J113)	ADX3659
	26	5/3/3P Housing Wire (J114)	ADX3660
	27	5/3/3P Housing Wire (J115)	ADX3661
	28	5P Housing Wire (J108)	ADX3662
	29	9/3/3P Housing Wire (J130)	ADX3666
	30	7/3/3P Housing Wire (J131)	ADX3667

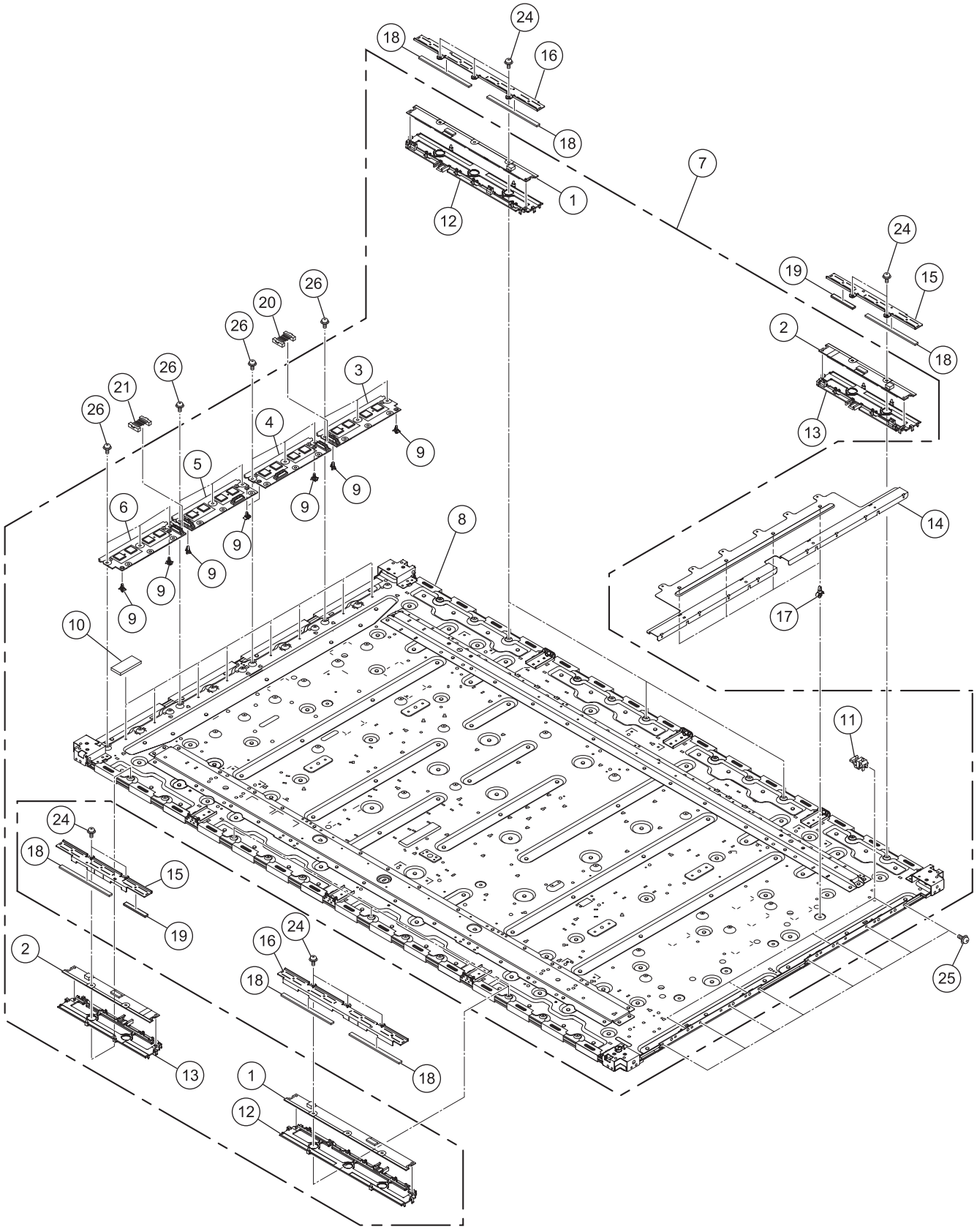
Mark	No.	Description	Part No.
	31	Plate Y	ANG3133
	32	Nylon Rivet	AEC1671
	33	Flat Clamp	AEC1879
	34	Nylon Rivet	AEC2089
	35	Reuse Card Spacer	AEC2117
	36	PCB Spacer (Reuse)	AEC2122
	37	Flat Clamp	AEC2132
	38	Reuse Wire Saddle	AEC2134
	39	Reuse PCB Spacer 6.0	AEC2135
	40	Cap Spacer	AEC2145
	41	Mini PCB Spacer 5.0	AEC2149
	42	Reuse Card Spacer S	AEC2153
	43	Reuse Clamp S	AEC2154
	44	Reuse Fastener S	AEC2155
	45	Reuse PCB Spacer 4.5B	AEC2161
	46	Drive Sheet	AEH1155
⚠	47	Power Assy Silicon	AEH1181
	48	Y Drive Silicon	AEH1184
	49	X Drive Silicon	AEH1185
	50	FAN Sheet A	AMR3764
⚠	51	Power Sheet B	AMR3767
	52	Y Drive Sheet B	AMR3769
⚠	53	Power Sheet 95A	AMR3809
	54	Y Drive Sheet C	AMR3819
	55	FFC Sheet	AMR3821
	56	FAN Sheet B	AMR3831
⚠	57	Y Drive Sheet A (M)	AMR3881
	58	DIGITAL Sheet (M)	AMR3884
	59	•••••	
	60	•••••	
	61	Screw	See Contrast table (2)
	62	Screw	ABA1364

(2) CONTRAST TABLE

PRO-141FD/KU/CBXC, KRP-600M/KUCXC, YVPSLFTD and TYVXK5 are constructed the same except for the following:

Mark	No.	Symbol and Description	PRO-141FD /KU/CBXC	KRP-600M /KUCXC	KRP-600M /YVPSLFTD	KRP-600M /TYVXK5
	61	Screw	ABA1313	ABA1351	ABA1351	ABA1351

9.9 PANEL CHASSIS SECTION



PANEL CHASSIS SECTION PARTS LIST

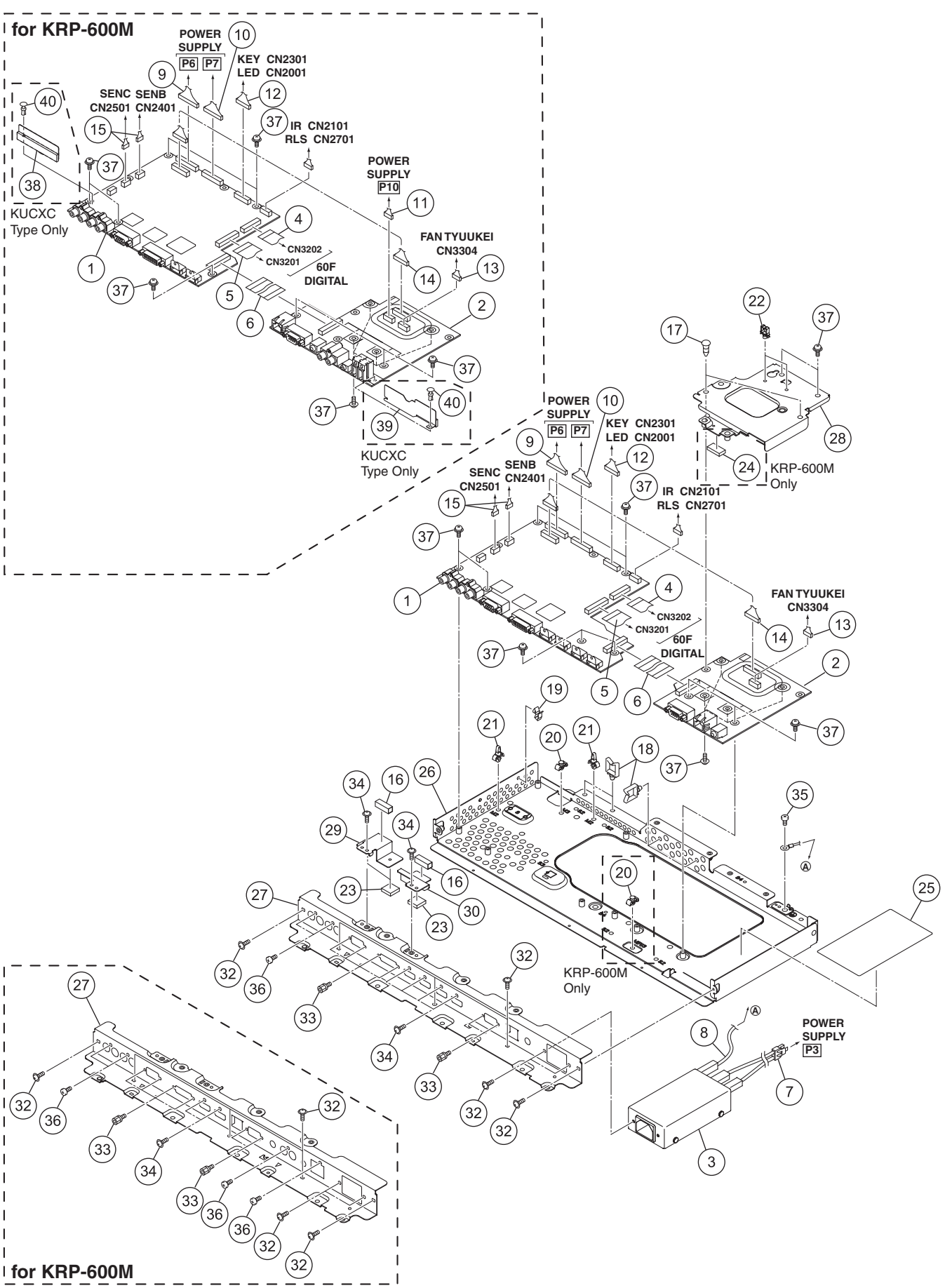
Mark	No.	Description	Part No.
NSP	1	60F ADDRESS L Assy	AWW1341
NSP	2	60F ADDRESS S Assy	AWW1342
NSP	3	60F SCAN A Assy	AWW1343
NSP	4	60F SCAN B Assy	AWW1344
NSP	5	60F SCAN C Assy	AWW1345
NSP	6	60F SCAN D Assy	AWW1346
NSP	7	P. Chassis (609FE) Assy	See Contrast table (2)
NSP	8	P. Panel (60FE) Assy	See Contrast table (2)
	9	Reuse PCB Spacer 4.5B	AEC2161
	10	Scan Sheet	AEH1154
	11	Plate Holder	AMR3757
	12	Address Holder Assy L	AMR3758
	13	Address Holder Assy S	AMR3759
	14	Plate X	ANG3132
⚠	15	Address Heatsink S	ANH1704
⚠	16	Address Heatsink L	ANH1705
	17	PCB Spacer (Reuse)	AEC2122
	18	Address Silicon A	AEH1146
	19	Address Silicon C	AEH1156
	20	3 Piece Connector 15P (CN101)	AKM1393
	21	3 Piece Connector 15P (CN102)	AKM1393
	22	•••••	
	23	•••••	
	24	Screw	ABA1351
	25	Screw (M3 x 6) SN	ABA1366
	26	Screw	ABA1351

(2) CONTRAST TABLE

PRO-141FD/KU/CBXC, KRP-600M/KUCXC, YVPSLFTD and TYVXK5 are constructed the same except for the following:

Mark	No.	Symbol and Description	PRO-141FD /KU/CBXC	KRP-600M /KUCXC	KRP-600M /YVPSLFTD	KRP-600M /TYVXK5
NSP	7	P. Chassis (609FE) Assy	AWU1344	AWU1288	AWU1288	AWU1288
NSP	8	P. Panel (609FE) Assy	AWU1343	AWU1290	AWU1290	AWU1290

9.10 MULTIBASE SECTION



MULTIBASE SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	MAIN Assy	See Contrast table (2)
	2	I/O Assy	See Contrast table (2)
⚠	3	AC Inlet (CN1)	AKP1336
	4	Flexible Cable (J211)	ADD1560
	5	Flexible Cable (J212)	ADD1561
	6	Flexible Cable (J213)	ADD1562
⚠	7	Housing Wire (J104)	ADX3607
⚠	8	Housing Wire (J105)	ADX3651
	9	15P Housing Wire (J110)	ADX3653
	10	14P Housing Wire (J109)	ADX3654
	11	7/6P Housing Wire (J136)	See Contrast table (2)
	12	10/6/4P Housing Wire (J116)	ADX3664
	13	6P Housing Wire (J120)	ADX3665
	14	11P Housing Wire (J133)	ADX3668
	15	4/6P Housing Wire (J135)	ADX3671
⚠	16	Gasket (6.4 x 6.4 x 20)	ANK1992
	17	Spacer	AEC1065
	18	Wire Saddle	AEC1745
	19	Mini Clamp	AEC1805
	20	PCB Support	AEC1938
	21	PCB Spacer (Reuse)	AEC2087
	22	Reuse Mini Saddle	AEC2160
	23	Silicon Sheet	AEH1177
	24	Thermal Sheet AUDIO	See Contrast table (2)
	25	Inlet Sheet	AMR3875
	26	Multi Base Assy	See Contrast table (2)
	27	Terminal Panel	See Contrast table (2)
	28	Support Bracket MTR	ANG3167
	29	Silicon Angle	ANG3189
	30	Silicon Angle DVI	ANG3194
	31	•••••	
	32	N Grip Screw (M3 x 6)	ABA1381
	33	Hexagon Headed Screw	ABA1382
	34	Screw	AMZ30P060FTB
⚠	35	Screw	BMP40P080FSN
	36	Screw	BPZ30P080FTB
	37	Screw	PMB30P060FNI
⚠	38	Terminal Cover A	See Contrast table (2)
⚠	39	Terminal Cover B	See Contrast table (2)
	40	Nylon Rivet	See Contrast table (2)

(2) CONTRAST TABLE

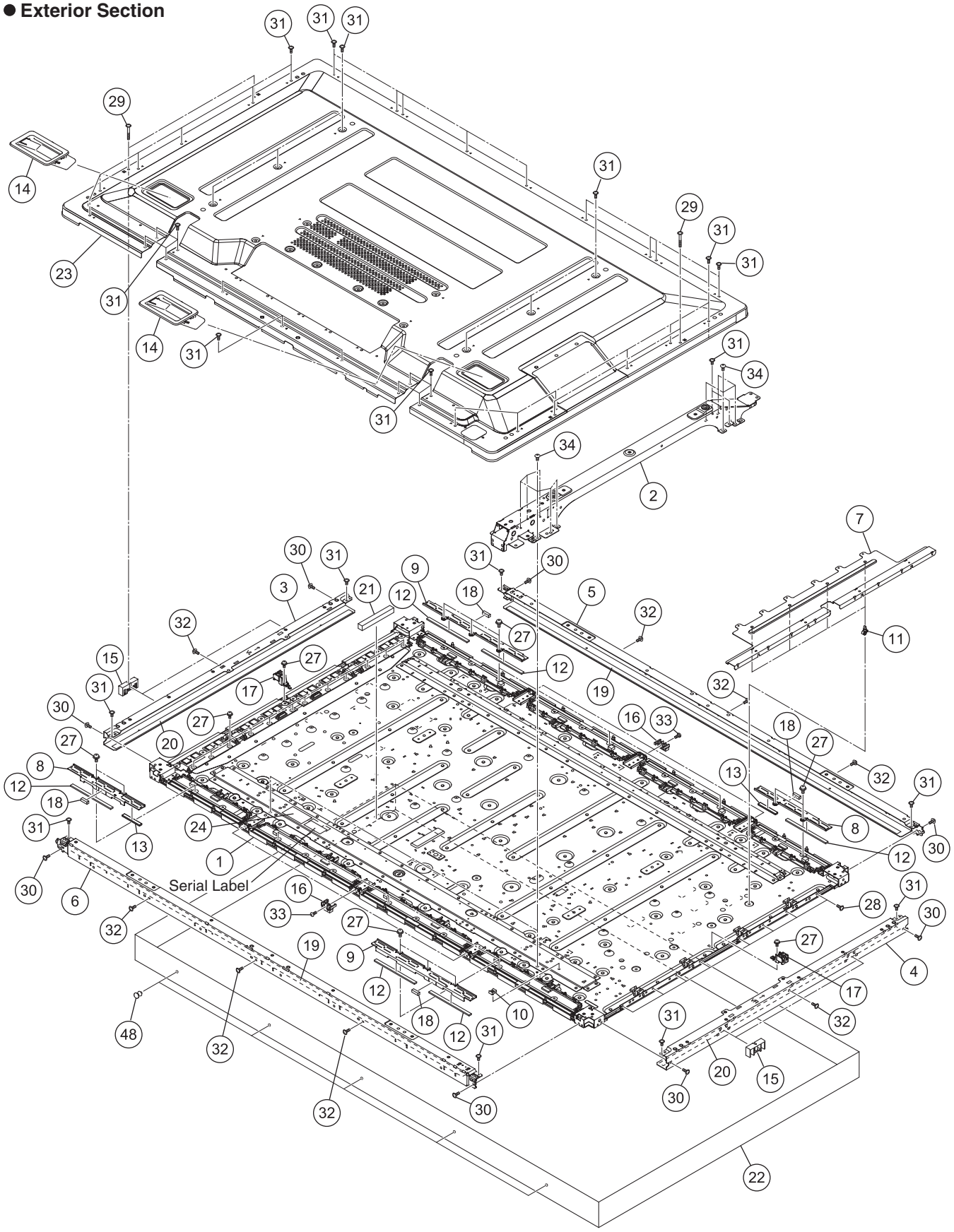
PRO-141FD/KU/CBXC, KRP-600M/KUCXC, YVPSLFTD and TYVXK5 are constructed the same except for the following:

Mark	No.	Symbol and Description	PRO-141FD /KU/CBXC	KRP-600M /KUCXC	KRP-600M /YVPSLFTD	KRP-600M /TYVXK5
	1	MAIN Assy	AWW1373	AWW1384	AWW1384	AWW1384
	2	I/O Assy	AWW1379	AWW1385	AWW1385	AWW1385
	11	7/6P Housing Wire (J136)	Not used	ADX3657	ADX3657	ADX3657
	24	Thermal Sheet AUDIO	Not used	AMR3507	AMR3507	AMR3507
	26	Multi Base Assy ELT	ANA2197	Not used	Not used	Not used
	26	Multi Base Assy MTR	Not used	ANA2169	ANA2169	ANA2169
	27	Terminal Panel ELT	ANC2473	Not used	Not used	Not used
	27	Terminal Panel MTR	Not used	ANC2472	ANC2472	ANC2472
⚠	38	Terminal Cover A	Not used	AMR3911	Not used	Not used
⚠	39	Terminal Cover B	Not used	AMR3912	Not used	Not used
	40	Nylon Rivet	Not used	AEC1671	Not used	Not used

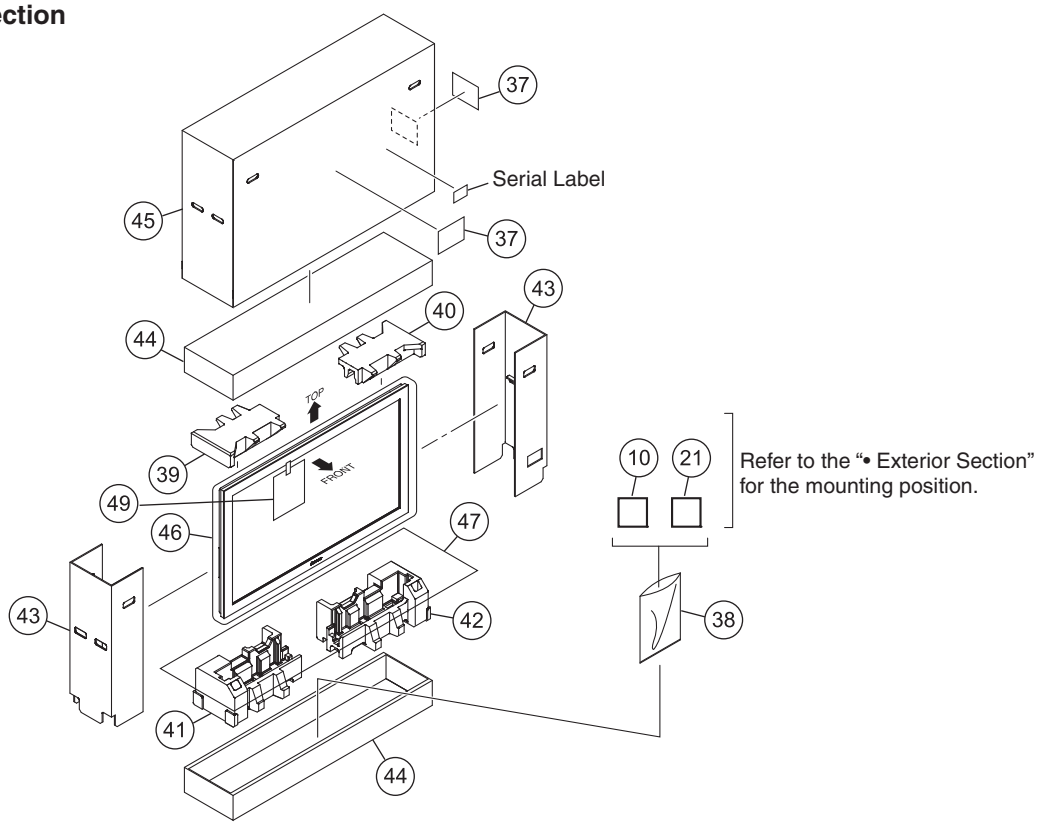
9.11 PDP SERVICE ASSY

PDP SERVICE ASSY 609FE : AWU1347

● **Exterior Section**



● **Packing Section**



PDP SERVICE ASSY PARTS LIST

Mark	No.	Description	Part No.
NSP	1	P. Chassis (609FE) Assy	AWU1344
	2	Sub Frame Assy	ANA2127
	3	F. Chassis VL Assy	ANA2184
	4	F. Chassis VR Assy	ANA2128
	5	F. Chassis HT Assy	ANA2132
	6	F. Chassis HB Assy	ANA2133
	7	Plate X	ANG3132
⚠	8	Address Heatsink S	ANH1704
⚠	9	Address Heatsink L	ANH1705
	10	Ferrite Core Holder	AEC1818
	11	PCB Spacer (Reuse)	AEC2122
	12	Address Silicon A (508)	AEH1146
	13	Address Silicon C	AEH1156
	14	Inner Grip Assy	AMR3434
	15	Front Bezel Support	AMR3755
	16	F. Chassis H Guide	AMR3756
	17	Support Bracket	AMR3762
	18	Address Gasket	ANK1947
	19	Front Gasket H	ANK1960
	20	Front Gasket V	ANK1961
	21	Gasket (10 x 10 x 80)	ANK1974
NSP	22	Front Bezel (609SERV)	AMB3106
	23	Rear Case Assy 60	ANE1686
NSP	24	Drive Voltage Label	ARW1097
	25	•••••	
	26	•••••	
	27	Screw	ABA1351
	28	Screw (M3 x 6) SN	ABA1366
	29	Screw (3 x 25 P)	ABA1380
	30	Screw	ABZ30P080FTC
	31	Screw	AMZ30P060FTB
	32	Screw	APZ30P080FTB
	33	Screw	BMZ30P080FTB
	34	Screw	TBZ40P060FTC
	35	•••••	
	36	•••••	
	37	Caution Label	AAX3031
	38	Vinyl Bag S	AHG1338
	39	Pad (609 T-L)	AHA2722
	40	Pad (609 T-R)	AHA2723
	41	Pad (609 B-L)	AHA2724
	42	Pad (609 B-R)	AHA2725
	43	Sub Carton LR (609E)	AHC1110
	44	Under Carton (609E)	AHD3666
	45	Upper Carton (609SERV)	AHD3724
	46	Protect Sheet	AHG1401
	47	Mirror Mat	AHG1402
	48	Rivet (Plastic)	AEC1877
NSP	49	Caution Sheet (9G)	ARM1398

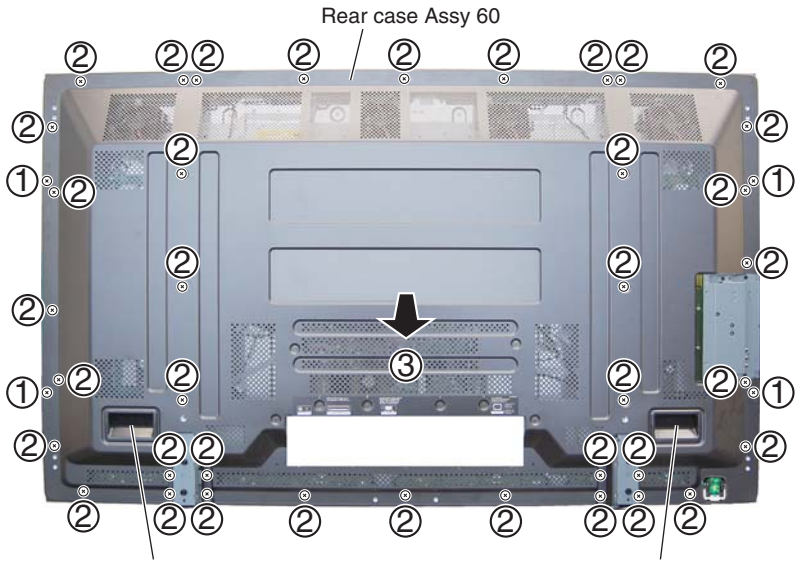
Disassembly / Reassembly of the Service Panel Assy

The panel for service for the 60-inch integrated-type monitor for overseas is used as the panel for service for the 60-inch 9G monitor. Before it can be used for servicing the 9G monitor, it is necessary to replace some of its parts with those from the chassis of the panel to be repaired.
Disassemble/reassemble the panel for service in the manner shown below.

Procedures for removing unnecessary parts

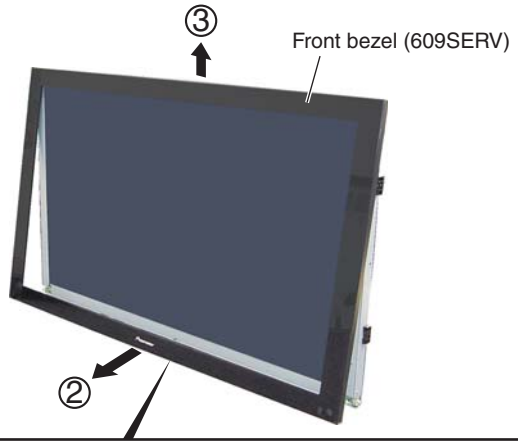
1 Rear Case Assy 60

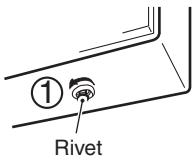
① Remove the four screws. (ABA1380)
② Remove the 38 screws. (AMZ30P060FTB)
③ Remove the rear case Assy 60.



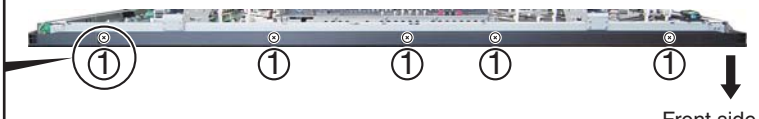
2 Front Bezel (609SERV)

① Remove the five rivets.
② Pull the lower part of the front bezel (609SERV) toward you and out.
③ Remove the front bezel (609SERV), by pulling it upward.



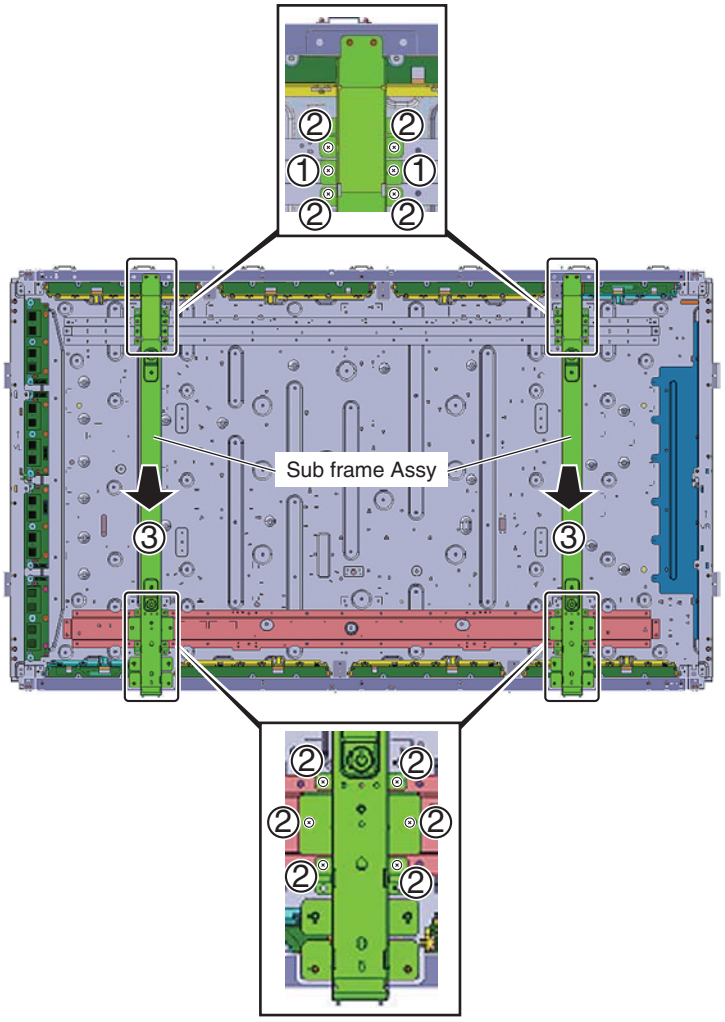


Turn it not to press the rivet.
(Because when the rivet presses, fit in once again.)



3 Sub Frame Assy

① Remove the four screws. (AMZ30P060FTB)
② Remove the 20 screws. (TBZ40P060FTC)
③ Remove the two sub frame Assys.



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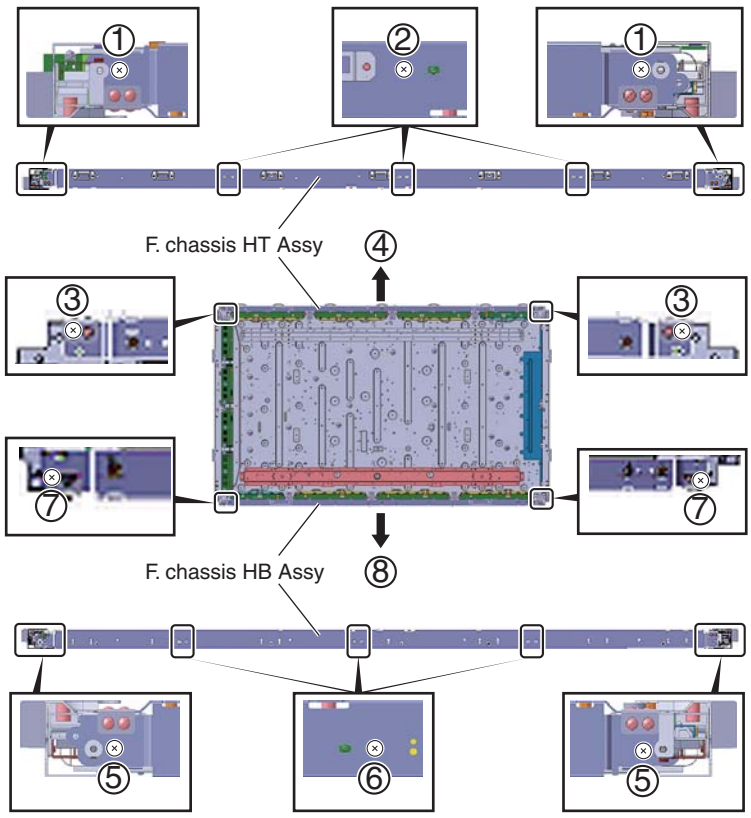
4 F. Chassis HT and HB Assys

● **F. chassis HT Assy**

① Remove the two screws. (ABZ30P080FTC)
② Remove the three screws. (APZ30P080FTB)
③ Remove the two screws. (AMZ30P060FTB)
④ Remove the F. chassis HT Assy.

● **F. chassis HB Assy**

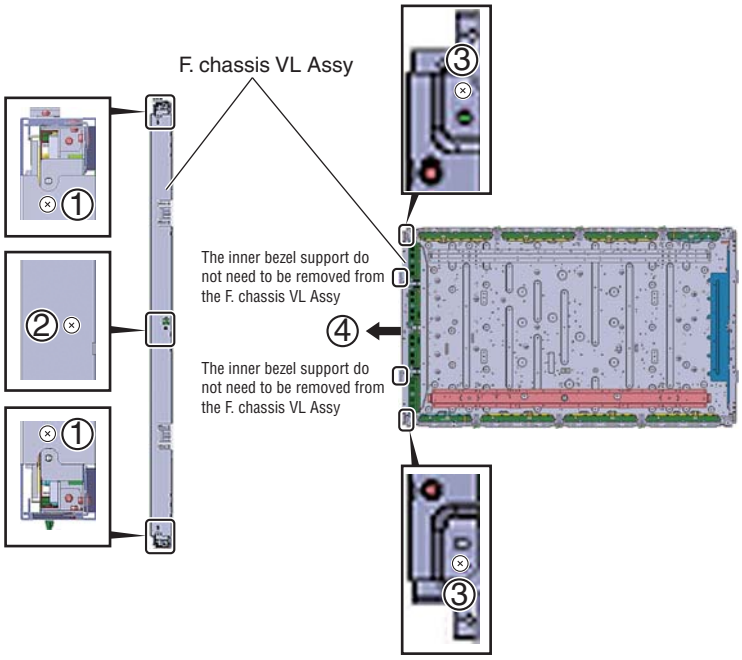
⑤ Remove the two screws. (ABZ30P080FTC)
⑥ Remove the three screws. (APZ30P080FTB)
⑦ Remove the two screws. (AMZ30P060FTB)
⑧ Remove the F. chassis HB Assy.



5 F. Chassis VL and VR Assys

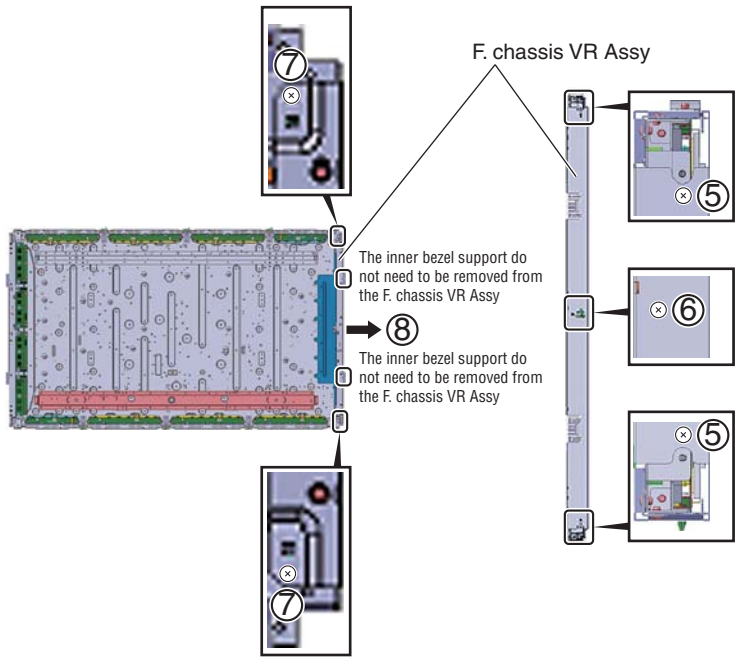
● **F. chassis VL Assy**

① Remove the two screws. (ABZ30P080FTC)
② Remove the one screw. (APZ30P080FTB)
③ Remove the two screws. (AMZ30P060FTB)
④ Remove the F. chassis VL Assy.



● **F. chassis VR Assy**

⑤ Remove the two screws. (ABZ30P080FTC)
⑥ Remove the one screw. (APZ30P080FTB)
⑦ Remove the two screws. (AMZ30P060FTB)
⑧ Remove the F. chassis VR Assy.



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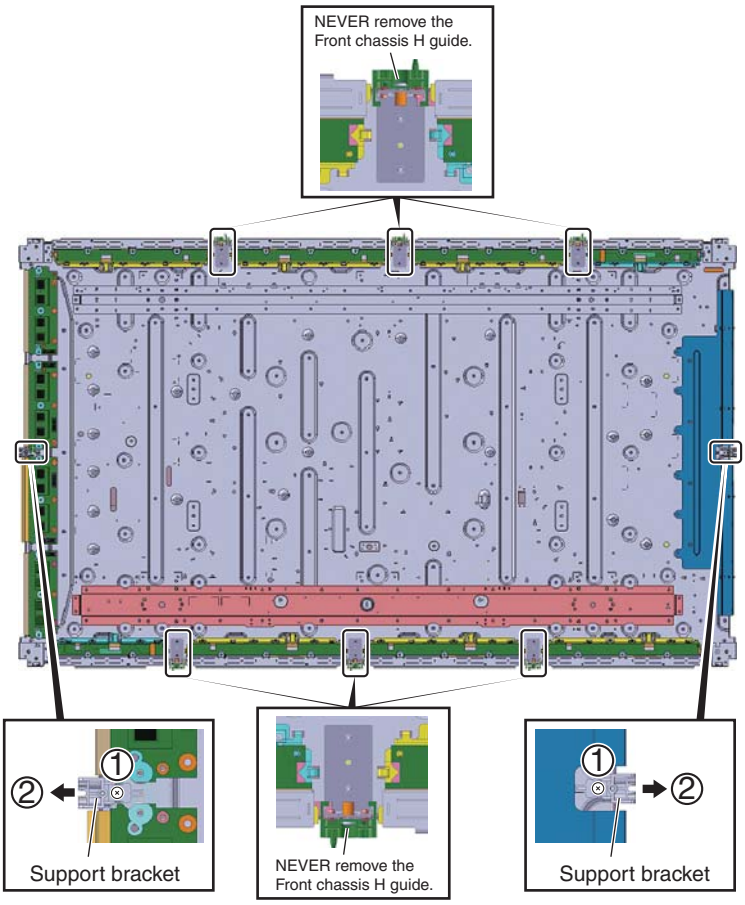
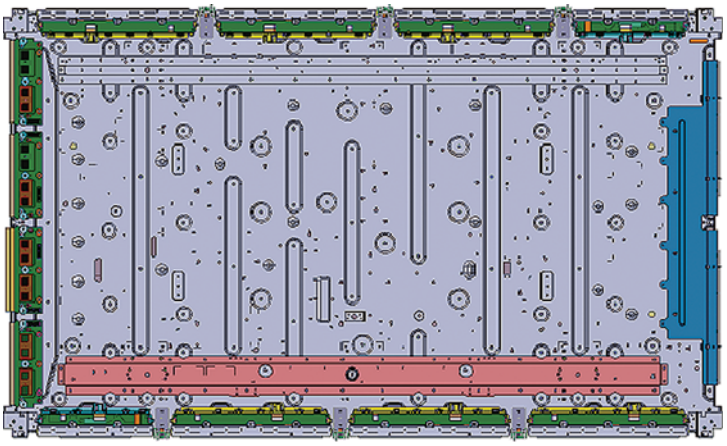
6 Support Bracket

① Remove the two screws. (ABA1351)
② Remove the two support brackets.



The state that removed an unnecessary parts



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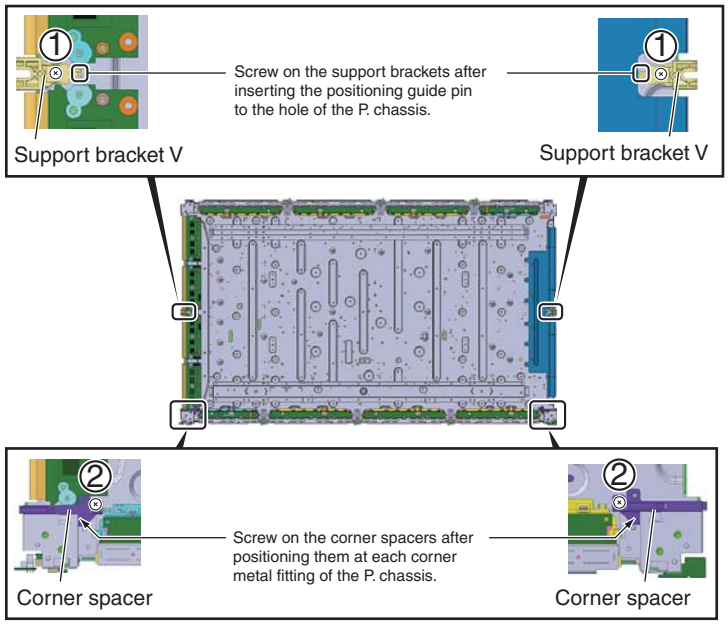
Procedures for reattaching the parts from this model
(Remove the necessary parts from the panel being repaired then reattach them to the panel for service.)

1 Support Bracket V and Corner Spacer

① Tighten the two screws, and attatch the two support brackets V. (ABA1351)

② Tighten the two screws, and attatch the two corner spacer. (ABA1351)

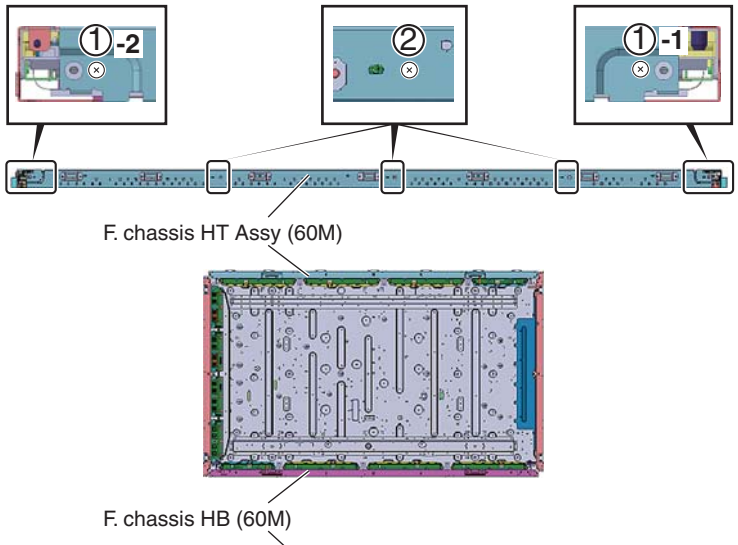


2 F. Chassis HT Assy (60M) and F. Chassis HB (60M)

● **F. chassis HT Assy (60M)**

① Tighten the two screws. (ABZ30P080FTC)

② Tighten the three screws. (APZ30P080FTB)



● **F. chassis HB (60M)**

③ Tighten the two screws. (ABZ30P080FTC)

④ Tighten the three screws. (APZ30P080FTB)

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3 F. Chassis V Assy (60M)

● **Left side**

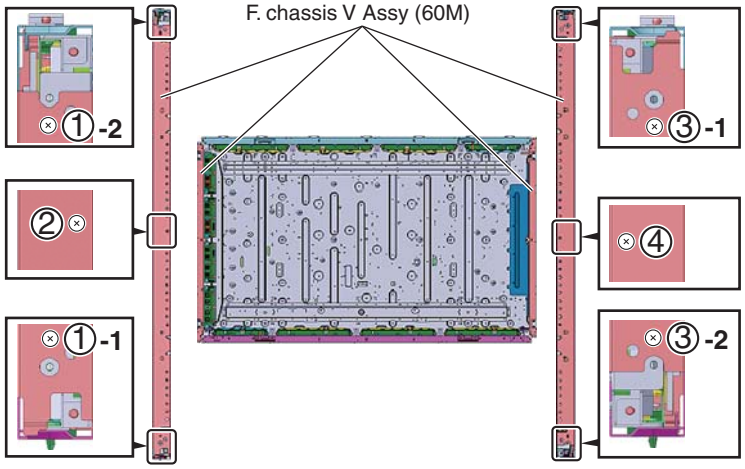
① Tighten the two screws. (ABZ30P080FTC)

② Tighten the one screw. (APZ30P080FTB)

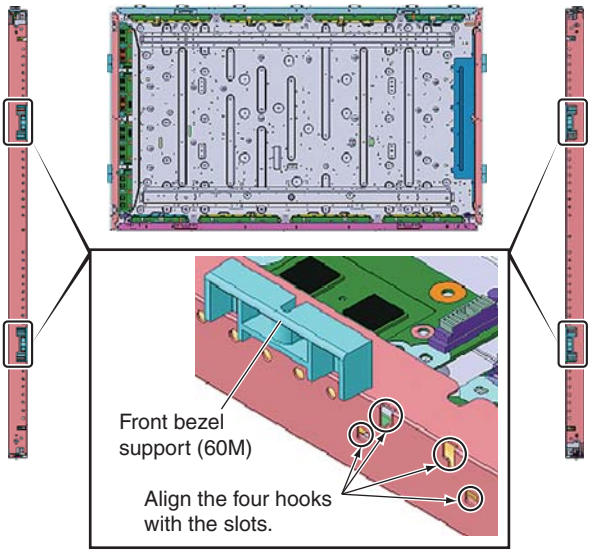
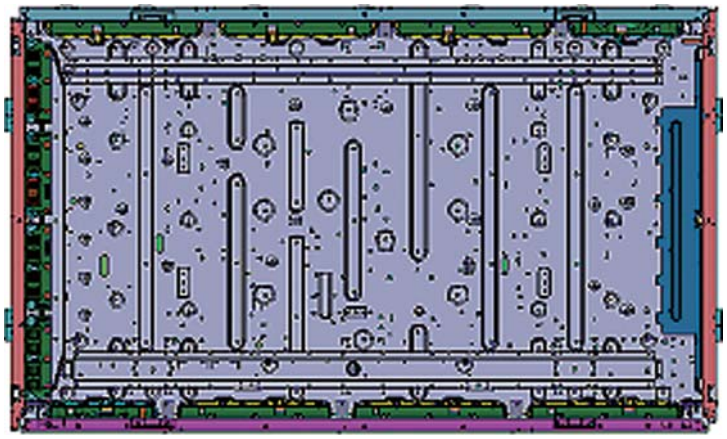
● **Right side**

③ Tighten the two screws. (ABZ30P080FTC)

④ Tighten the one screw. (APZ30P080FTB)



If the front bezel support (60M) is detached from the F. chassis V Assy, reattach it.



In this state, attach the Y DRIVE Assy, X DRIVE Assy, POWER SUPPLY Unit, DIGITAL Assy, and FFC and other cables. Then attach the two sub frames.